

# SCORESHEET

## REPORTER

Start from 1 and add/subtract

$$1 + \boxed{2.5} + \boxed{2.5} - \boxed{0} = \boxed{6}$$

stage:  $\frac{7}{3}$   
reporter: RUSSIA

fight (round no.): B1  
opponent: SWITZLAND

room: C  
reviewer: USA

problem no.: 5

Juror's name: Feng Song  
signature: *Feng Song*

| REPORT  |  |                                     |  |   |                                   | DISCUSSION WITH OPPONENT         |                                      |  | ANSWERS TO JURY, OPPONENT and REVIEWER'S QUESTIONS  |
|---|--|-------------------------------------|--|---|-----------------------------------|----------------------------------|--------------------------------------|--|---|
| phenomenon explanation                              | theory/model                           | relevant experiments                | comparison between theory and experiment           | own contribution                          | task fulfilment                   | scientific contribution          | relevant arguments/responses         | efficiency                                       |   |
| 0 — almost no                                       | almost no                              | too few                             | no/ almost no                                      | others' data, incorrectly cited           | misunderstood                     | 0 — almost no                    | too few                              | almost no, chaotic                               | 0 — concise and correct or no questions asked<br>1 — some incorrect, inconclusive or too long<br>-1 — some incorrect, inconclusive or too long<br>-2 — deeply incorrect or show deep misconceptions |
| 1 — some  | <del>X</del> some                      | some                                | some   | review of sources, cited                  | partly                            | 1 — only technical               | some                                 | avoided some questions                           |   |
| 2 — fair  | fair                                   | fair                                | not well fitting                                   | some own input                            | average                           | 2 — <del>X</del> points cleared  | <del>X</del> many                    | cooperated well                                  |   |
| 3 — <del>X</del> good                               | good                                   | well performed, sufficient number   | deviations qualitatively analysed                  | <del>X</del> some interesting results     | <del>X</del> interesting solution | 3 — interesting points discussed | + data/theory convincingly supported | <del>X</del> answered directly to most questions |   |
| 4 — detailed demonstrative                          | quite detailed, correct                | + results explained errors analysed | <del>X</del> + theory limits explained, conclusive | considerable experimental or theoretical  | some aspects above average        | 4 — brought in new physics       | proved deep understanding            | efficient, productive                            |   |
| 6 — deep and comprehensible, shows physical insight | detailed, complex, completely testable | + reproducible, convincing analysis | well fitting, deviations analysed, conclusive      | considerable experimental and theoretical | greater extent than expected      |                                  |                                      |  |   |

NOTES:

## OPPONENT

Start from 1 and add/subtract

$$1 + \boxed{1} + \boxed{1.5} + \boxed{1.5} - \boxed{0} = \boxed{5}$$

| QUESTIONS ASKED  |              | OPPOSITION (SPEECH)   |                               |                           |                                |                   | DISCUSSION WITH REPORTER |                     |                           |                        |                        | ANSWERS TO JURY and REVIEWER'S QUESTIONS  |
|--|--------------|-----------------------|-------------------------------|---------------------------|--------------------------------|-------------------|--------------------------|---------------------|---------------------------|------------------------|------------------------|---|
|  |              | time used             | understanding of presentation | relevant topics addressed | correct own opinions expressed | prioritisation    | scientific contribution  | relevance of topics | own opinions presented    | efficiency             | prioritisation         |   |
| 0 — almost no, irrelevant                                    | <del>X</del> | almost no             | almost nothing                | no or irrelevant          | almost no                      | no                | 0 — almost no            | irrelevant          | very little               | almost no              | <del>X</del> no        | 0 — concise and correct or no questions asked<br>1 — some incorrect, inconclusive or too long<br>-1 — some incorrect, inconclusive or too long<br>-2 — deeply incorrect or show deep misconceptions |
| 1 — some relevant, aimed at resolving some unclear points    |              | 1 — very little       | <del>X</del> some main points | few                       | <del>X</del> some              | almost no         | 1 — little               | some                | some <del>X</del>         | to some extent         | <del>X</del> almost no |   |
| 2 — short allowing short answers, prioritized, all time used |              | 2 — not all           | main points                   | <del>X</del> some         | to important topics            | <del>X</del> some | 2 — partial              | average             | some correct              | leading or cooperative | some                   |   |
|  |              | 3 — almost all        | all relevant points           | many                      | to most topics                 | reasonable        | 3 — good                 | many                | many correct              | quite efficient        | reasonable             |   |
|  |              | 4 — all & efficiently | practically all points        | practically all           | + improvement suggestions      | very good         | 4 — new crucial point(s) | almost all          | + improvement suggestions | very efficient         | very good              |   |
|  |              |                       |                               |                           |                                |                   |                          |                     |                           |                        |                        |   |

NOTES:

## REVIEWER

Start from 1 and add/subtract

$$1 + \boxed{1.5} + \boxed{2} + \boxed{2.5} - \boxed{0} = \boxed{7}$$

| QUESTIONS ASKED  |  | REVIEW OF REPORT               |                      |                           |                                 |                   | REVIEW OF OPPOSITION              |                      |                           |                    |                   | ANSWERS TO JURY QUESTIONS   |
|--|--|--------------------------------|----------------------|---------------------------|---------------------------------|-------------------|-----------------------------------|----------------------|---------------------------|--------------------|-------------------|---|
|  |  | report summary & understanding | discussion analysis  | own opinions              | pros & cons                     | prioritisation    | speech summary                    | discussion analysis  | own opinions              | pros & cons        | prioritisation    |   |
| 0 — too few, mostly irrelevant   |  | poor                           | almost no            | too few                   | irrelevant                      | no                | 0 — poor                          | almost no            | too few                   | irrelevant         | no                | 0 — concise and correct or no questions asked<br>1 — some incorrect, inconclusive or too long<br>-1 — some incorrect, inconclusive or too long<br>-2 — deeply incorrect or show deep misconceptions |
| 1 — some relevant, sufficient number, could clear things out                               |  | 1 — partial                    | too short/long       | <del>X</del> some         | <del>X</del> partially relevant | almost no         | 1 — too short/long                | too short/long       | some <del>X</del>         | partially relevant | almost no         |   |
| 2 — <del>X</del> most time used, many unclear points resolved, aimed at both rep. and opp. |  | 2 — <del>X</del> good          | relevant parts       | many                      | mostly adequate                 | <del>X</del> some | 2 — <del>X</del> informative, apt | relevant parts       | many                      | mostly adequate    | some <del>X</del> |   |
| 3 — +short, apt and clear, well prioritized time managed efficiently                       |  | 3 — detailed, complex          | accurate, conclusive | + improvement suggestions | fully adequate                  | good              | 3 — brief but accurate            | accurate, conclusive | + improvement suggestions | fully adequate     | good              |   |
|  |  |                                |                      |                           |                                 |                   |                                   |                      |                           |                    |                   |   |
|  |  |                                |                      |                           |                                 |                   |                                   |                      |                           |                    |                   |   |

NOTES:



# SCORESHEET

## REPORTER

Start from 1 and add/subtract

$$1 + 2.5 + 1.5 - \square = 6$$

stage: 3

fight (round no.): 1

room: C

problem no.: 5

Juror's name: L. Goodwin  
signature: L. Goodwin

reporter: RUSSIA

opponent: SWITZERLAND

reviewer: USA

| REPORT |   |  |                                     |   |   |                              | DISCUSSION WITH OPPONENT             |                              |                                     | ANSWERS TO JURY, OPPONENT and REVIEWER'S QUESTIONS |  |
|--------|---|--|-------------------------------------|---|---|------------------------------|--------------------------------------|------------------------------|-------------------------------------|--|--|
|        | phenomenon explanation                          | theory/model                           | relevant experiments                | comparison between theory and experiment      | own contribution                          | task fulfilment              | scientific contribution              | relevant arguments/responses | efficiency                          |  |  |
| 0      | almost no                                       | almost no                              | too few                             | no/ almost no                                 | others' data, incorrectly cited           | misunderstood                | almost no                            | too few                      | almost no, chaotic                  | 0  | concise and correct or no questions asked    |
| 1      | some  | some                                   | some                                | some  | review of sources, cited                  | partly                       | only technical points cleared        | some                         | avoided some questions              | 1  | some incorrect, inconclusive or too long     |
| 2      | fair  | fair                                   | fair                                | not well fitting                              | some own input                            | average                      | some scientific points cleared       | many                         | cooperated well                     | 2  | deeply incorrect or show deep misconceptions |
| 3      | good  | good                                   | well performed, sufficient number   | deviations qualitatively analysed             | some interesting results                  | interesting solution         | interesting points discussed         |                              |                                     | 3  |  |
| 4      | detailed demonstrative                          | quite detailed, correct                | + results explained errors analysed | + theory limits explained, conclusive         | considerable experimental or theoretical  | some aspects above average   | + data/theory convincingly supported |                              | answered directly to most questions | 4  |  |
| 5      | deep and comprehensible, shows physical insight | detailed, complex, completely testable | + reproducible, convincing analysis | well fitting, deviations analysed, conclusive | considerable experimental and theoretical | greater extent than expected | brought in new physics               | proved deep understanding    | efficient, productive               |  |  |

NOTES:

## OPPONENT

Start from 1 and add/subtract

$$1 + 1 + 3 + 2 - 4 = 7$$

| QUESTIONS ASKED  | OPPOSITION (SPEECH)                          | DISCUSSION WITH REPORTER           | ANSWERS TO JURY and REVIEWER'S QUESTIONS       |
|--|--|------------------------------------|--|
| 0 almost no, irrelevant                                    | time used almost no                          | scientific contribution almost no  | 0 concise and correct or no questions asked    |
| 1 some relevant, aimed at resolving some unclear points    | understanding of presentation almost nothing | relevance of topics irrelevant     | 1 some incorrect, inconclusive or too long     |
| 2 short allowing short answers, prioritized, all time used | relevant topics addressed no or irrelevant   | own opinions presented very little | 2 deeply incorrect or show deep misconceptions |
|  | correct own opinions expressed almost no     | efficiency almost no               |  |
|  | prioritisation no                            | prioritisation no                  |  |
|  | 1 very little                                | 1 little                           |  |
|  | 2 not all                                    | 2 partial                          |  |
|  | 3 almost all                                 | 3 good                             |  |
|  | 4 all & efficiently                          | 4 new crucial point(s)             |  |
|  | 1 some main points                           | 1 some                             |  |
|  | 2 main points                                | 2 average                          |  |
|  | 3 many                                       | 3 many correct                     |  |
|  | 4 practically all points                     | 4 + improvement suggestions        |  |
|  | 1 few  | 1 to some extent                   |  |
|  | 2 some                                       | 2 leading or cooperative           |  |
|  | 3 to most topics                             | 3 quite efficient                  |  |
|  | 4 + improvement suggestions                  | 4 very efficient                   |  |
|  | 1 almost no                                  | 1 almost all                       |  |
|  | 2 some                                       | 2 very good                        |  |
|  | 3 reasonable                                 |                                    |  |
|  | 4 very good                                  |                                    |  |

NOTES:

## REVIEWER

Start from 1 and add/subtract

$$1 + 2 + 1 + 1 - \square = 5$$

| QUESTIONS ASKED   | REVIEW OF REPORT                    | REVIEW OF OPPOSITION          | ANSWERS TO JURY QUESTIONS                      |
|---|-------------------------------------|-------------------------------|--|
| 0 too few, mostly irrelevant  | report summary & understanding poor | speech summary poor           | 0 concise and correct or no questions asked    |
| 1 some relevant, sufficient number, could clear things out                  | discussion analysis almost no       | discussion analysis almost no | 1 some incorrect, inconclusive or too long     |
| 2 most time used, many unclear points resolved, aimed at both rep. and opp. | own opinions too few                | own opinions too few          | 2 deeply incorrect or show deep misconceptions |
| 3 +short, apt and clear, well prioritized time managed efficiently          | pros & cons irrelevant              | pros & cons irrelevant        |  |
|   | prioritisation no                   | prioritisation no             |  |
|   | 1 partial                           | 1 too short/long              |  |
|   | 2 good                              | 2 informative, apt            |  |
|   | 3 detailed, complex                 | 3 accurate, conclusive        |  |
|   | 1 too short/long                    | 1 some                        |  |
|   | 2 relevant parts                    | 2 many                        |  |
|   | 3 + improvement suggestions         | 3 + improvement suggestions   |  |
|   | 1 some                              | 1 partially relevant          |  |
|   | 2 mostly adequate                   | 2 mostly adequate             |  |
|   | 3 fully adequate                    | 3 good                        |  |

NOTES:



# SCORESHEET

REPORTER <sup>2.0</sup> Start from 1 and add/subtract  
 1 + 2.5 + 1.0 - 0 = 6.0

stage: 3  
 reporter: RUSSIA

fight (round no.): 1  
 opponent: SWITZERLAND  
 room: C  
 reviewer: USA

problem no.: 5

Juror's name: TATYANA  
 signature: TGS

| REPORT  |  |   |   |   |                                  | DISCUSSION WITH OPPONENT   |                               |   | ANSWERS TO JURY, OPPONENT and REVIEWER'S QUESTIONS  |
|---|--|---|---|---|----------------------------------|----------------------------|-------------------------------|---|---|
| phenomenon explanation                              | theory/model                               | relevant experiments                    | comparison between theory and experiment          | own contribution                              | task fulfilment                  | scientific contribution    | relevant arguments/responses  | efficiency                              |   |
| 0 — almost no                                       | 0 — almost no                              | 0 — too few                             | 0 — no/ almost no                                 | 0 — others' data, incorrectly cited           | 0 — misunderstood                | 0 — almost no              | 0 — too few                   | 0 — almost no, chaotic                  | 0 — concise and correct or no questions asked<br>-1 — some incorrect, inconclusive or too long<br>-2 — deeply incorrect or show deep misconceptions |
| 1 — some  | 1 — some                                   | 1 — some                                | 1 — some  | 1 — review of sources, cited                  | 1 — partly                       | 1 — only technical         | 1 — some                      | 1 — avoided some questions              |   |
| 2 — fair  | 2 — fair                                   | 2 — fair                                | 2 — not well fitting                              | 2 — some own input                            | 2 — average                      | 2 — some scientific        | 2 — many                      | 2 — cooperated well                     |   |
| 3 — good  | 3 — good                                   | 3 — well performed, sufficient number   | 3 — deviations                                    | 3 — some interesting results                  | 3 — interesting solution         | 3 — interesting points     | 3 — + data/theory             | 3 — answered directly to most questions |   |
| 4 — detailed demonstrative                          | 4 — quite detailed, correct                | 4 — + results explained                 | 4 — + theory limits explained, conclusive         | 4 — considerable experimental or theoretical  | 4 — some aspects above average   | 4 — discussed              | 4 — convincingly supported    | 4 — efficient, productive               |   |
| 5 — deep and comprehensible, shows physical insight | 5 — detailed, complex, completely testable | 5 — + reproducible, convincing analysis | 5 — well fitting, deviations analysed, conclusive | 5 — considerable experimental and theoretical | 5 — greater extent than expected | 5 — brought in new physics | 5 — proved deep understanding |   |   |

NOTES:

OPPONENT <sup>7.0</sup> Start from 1 and add/subtract  
 1 + 1.5 + 2.5 + 2.0 - 0 = 7.0

| QUESTIONS ASKED  | OPPOSITION (SPEECH)   |                               |                           |                                |                | DISCUSSION WITH REPORTER |                     |                               |                            |                | ANSWERS TO JURY and REVIEWER'S QUESTIONS  |
|--|-----------------------|-------------------------------|---------------------------|--------------------------------|----------------|--------------------------|---------------------|-------------------------------|----------------------------|----------------|---|
|  | time used             | understanding of presentation | relevant topics addressed | correct own opinions expressed | prioritisation | scientific contribution  | relevance of topics | own opinions presented        | efficiency                 | prioritisation |   |
| 0 — almost no, irrelevant                                    | 0 — almost no         | 0 — almost nothing            | 0 — no or irrelevant      | 0 — almost no                  | 0 — no         | 0 — almost no            | 0 — irrelevant      | 0 — very little               | 0 — almost no              | 0 — no         | 0 — concise and correct or no questions asked<br>-1 — some incorrect, inconclusive or too long<br>-2 — deeply incorrect or show deep misconceptions |
| 1 — some relevant, aimed at resolving some unclear points    | 1 — very little       | 1 — some main points          | 1 — few                   | 1 — some                       | 1 — almost no  | 1 — little               | 1 — some            | 1 — some                      | 1 — to some extent         | 1 — almost no  |   |
| 2 — short allowing short answers, prioritized, all time used | 2 — not all           | 2 — main points               | 2 — some                  | 2 — to important topics        | 2 — some       | 2 — partial              | 2 — average         | 2 — some correct              | 2 — leading or cooperative | 2 — some       |   |
|  | 3 — almost all        | 3 — all relevant points       | 3 — many                  | 3 — to most topics             | 3 — reasonable | 3 — good                 | 3 — many            | 3 — many correct              | 3 — quite efficient        | 3 — reasonable |   |
|  | 4 — all & efficiently | 4 — practically all points    | 4 — practically all       | 4 — + improvement suggestions  | 4 — very good  | 4 — new crucial point(s) | 4 — almost all      | 4 — + improvement suggestions | 4 — very efficient         | 4 — very good  |   |

NOTES:

REVIEWER <sup>6.0</sup> Start from 1 and add/subtract  
 1 + 2.0 + 1.5 + 1.0 - 0 = 6.0

| QUESTIONS ASKED   | REVIEW OF REPORT               |                          |                               |                        |                | REVIEW OF OPPOSITION   |                          |                               |                        |                | ANSWERS TO JURY QUESTIONS   |
|---|--------------------------------|--------------------------|-------------------------------|------------------------|----------------|------------------------|--------------------------|-------------------------------|------------------------|----------------|---|
|   | report summary & understanding | discussion analysis      | own opinions                  | pros & cons            | prioritisation | speech summary         | discussion analysis      | own opinions                  | pros & cons            | prioritisation |   |
| 0 — too few, mostly irrelevant  | 0 — poor                       | 0 — almost no            | 0 — too few                   | 0 — irrelevant         | 0 — no         | 0 — poor               | 0 — almost no            | 0 — too few                   | 0 — irrelevant         | 0 — no         | 0 — concise and correct or no questions asked<br>-1 — some incorrect, inconclusive or too long<br>-2 — deeply incorrect or show deep misconceptions |
| 1 — some relevant, sufficient number, could clear things out                  | 1 — partial                    | 1 — too short/long       | 1 — some                      | 1 — partially relevant | 1 — almost no  | 1 — too short/long     | 1 — too short/long       | 1 — some                      | 1 — partially relevant | 1 — almost no  |   |
| 2 — most time used, many unclear points resolved, aimed at both rep. and opp. | 2 — good                       | 2 — relevant parts       | 2 — many                      | 2 — mostly adequate    | 2 — some       | 2 — informative, apt   | 2 — relevant parts       | 2 — many                      | 2 — mostly adequate    | 2 — some       |   |
| 3 — +short, apt and clear, well prioritized time managed efficiently          | 3 — detailed, complex          | 3 — accurate, conclusive | 3 — + improvement suggestions | 3 — fully adequate     | 3 — good       | 3 — brief but accurate | 3 — accurate, conclusive | 3 — + improvement suggestions | 3 — fully adequate     | 3 — good       |   |

NOTES:



# SCORESHEET

## REPORTER

Start from 1 and add/subtract

$$1 + 4.5 + 2 - 0.5 = 7 \text{ seven}$$

stage: 3  
reporter: Russia

fight (round no.): 1

opponent: Switzerland

room: C  
reviewer: USA

problem no.: 5

Juror's name: Parla Viktor  
signature: [Signature]

## REPORT

|   | phenomenon explanation                          | theory/model                           | relevant experiments                | comparison between theory and experiment      | own contribution                          | task fulfilment              |
|---|---|--|-------------------------------------|---|---|------------------------------|
| 0 | almost no                                       | almost no                              | too few                             | no/ almost no                                 | others' data, incorrectly cited           | misunderstood                |
| 1 | some  | some                                   | some                                | some  | review of sources, cited                  | partly                       |
| 2 | fair  | fair                                   | fair                                | not well fitting                              | some own input                            | average                      |
| 3 | good  | good                                   | well performed, sufficient number   | deviations qualitatively analysed             | some interesting results                  | interesting solution         |
| 4 | detailed demonstrative                          | quite detailed, correct                | + results explained errors analysed | + theory limits explained, conclusive         | considerable experimental or theoretical  | some aspects above average   |
| 5 | deep and comprehensible, shows physical insight | detailed, complex, completely testable | + reproducible, convincing analysis | well fitting, deviations analysed, conclusive | considerable experimental and theoretical | greater extent than expected |

## DISCUSSION WITH OPPONENT

|   | scientific contribution        | relevant arguments/responses         | efficiency                          |
|---|--------------------------------|--------------------------------------|-------------------------------------|
| 0 | almost no                      | too few                              | almost no, chaotic                  |
| 1 | only technical points cleared  | some                                 | avoided some questions              |
| 2 | some scientific points cleared | many                                 | cooperated well                     |
| 3 | interesting points discussed   | + data/theory convincingly supported | answered directly to most questions |
| 4 | brought in new physics         | proved deep understanding            | efficient, productive               |

## ANSWERS TO JURY, OPPONENT and REVIEWER'S QUESTIONS

- 0 — concise and correct or no questions asked  
-1 — some incorrect, inconclusive or too long  
-2 — deeply incorrect or show deep misconceptions

## NOTES:

## OPPONENT

Start from 1 and add/subtract

$$1 + 2 + 1.5 + 2.5 - 0 = 7$$

| QUESTIONS ASKED  |
|--|
| 0 — almost no, irrelevant                                    |
| 1 — some relevant, aimed at resolving some unclear points    |
| 2 — short allowing short answers, prioritized, all time used |

## OPPOSITION (SPEECH)

|   | time used         | understanding of presentation | relevant topics addressed | correct own opinions expressed | prioritisation |
|---|-------------------|-------------------------------|---------------------------|--------------------------------|----------------|
| 0 | almost no         | almost nothing                | no or irrelevant          | almost no                      | no             |
| 1 | very little       | some main points              | few                       | some                           | almost no      |
| 2 | not all           | main points                   | some                      | to important topics            | some           |
| 3 | almost all        | all relevant points           | many                      | to most topics                 | reasonable     |
| 4 | all & efficiently | practically all points        | practically all           | + improvement suggestions      | very good      |

## DISCUSSION WITH REPORTER

|   | scientific contribution | relevance of topics | own opinions presented    | efficiency             | prioritisation |
|---|-------------------------|---------------------|---------------------------|------------------------|----------------|
| 0 | almost no               | irrelevant          | very little               | almost no              | no             |
| 1 | little                  | some                | some                      | to some extent         | almost no      |
| 2 | partial                 | average             | some correct              | leading or cooperative | some           |
| 3 | good                    | many                | many correct              | quite efficient        | reasonable     |
| 4 | new crucial point(s)    | almost all          | + improvement suggestions | very efficient         | very good      |

## ANSWERS TO JURY and REVIEWER'S QUESTIONS

- 0 — concise and correct or no questions asked  
-1 — some incorrect, inconclusive or too long  
-2 — deeply incorrect or show deep misconceptions

## NOTES:

## REVIEWER

Start from 1 and add/subtract

$$1 + 2 + 2 + 2 - 0 = 7$$

| QUESTIONS ASKED   |
|---|
| 0 — too few, mostly irrelevant  |
| 1 — some relevant, sufficient number, could clear things out                  |
| 2 — most time used, many unclear points resolved, aimed at both rep. and opp. |
| 3 — +short, apt and clear, well prioritized time managed efficiently          |

## REVIEW OF REPORT

|   | report summary & understanding | discussion analysis  | own opinions              | pros & cons        | prioritisation |
|---|--------------------------------|----------------------|---------------------------|--------------------|----------------|
| 0 | poor                           | almost no            | too few                   | irrelevant         | no             |
| 1 | partial                        | too short/long       | some                      | partially relevant | almost no      |
| 2 | good                           | relevant parts       | many                      | mostly adequate    | some           |
| 3 | detailed, complex              | accurate, conclusive | + improvement suggestions | fully adequate     | good           |

## REVIEW OF OPPOSITION

|   | speech summary     | discussion analysis  | own opinions              | pros & cons        | prioritisation |
|---|--------------------|----------------------|---------------------------|--------------------|----------------|
| 0 | poor               | almost no            | too few                   | irrelevant         | no             |
| 1 | too short/long     | too short/long       | some                      | partially relevant | almost no      |
| 2 | informative, apt   | relevant parts       | many                      | mostly adequate    | some           |
| 3 | brief but accurate | accurate, conclusive | + improvement suggestions | fully adequate     | good           |

## ANSWERS TO JURY QUESTIONS

- 0 — concise and correct or no questions asked  
-1 — some incorrect, inconclusive or too long  
-2 — deeply incorrect or show deep misconceptions

## NOTES:



# SCORESHEET

## REPORTER

Start from 1 and add/subtract

$$1 + \boxed{4} + \boxed{2} - \boxed{0} = \boxed{7}$$

stage: 3  
reporter: POLINA

fight (round no.): 1  
opponent: ZARA

room: C  
reviewer: SEOSIN

problem no.: 5

Juror's name: PHIL O'NEILL  
signature: PHIL O'NEILL

| REPORT  |  |                                     |   |   |                              | DISCUSSION WITH OPPONENT         |                                      |                                     | ANSWERS TO JURY, OPPONENT and REVIEWER'S QUESTIONS   |
|---|--|-------------------------------------|---|---|------------------------------|----------------------------------|--------------------------------------|-------------------------------------|--|
| phenomenon explanation                              | theory/model                           | relevant experiments                | comparison between theory and experiment      | own contribution                          | task fulfilment              | scientific contribution          | relevant arguments/responses         | efficiency                          |  |
| 0 — almost no                                       | almost no                              | too few                             | no/ almost no                                 | others' data, incorrectly cited           | misunderstood                | 0 — almost no                    | too few                              | almost no, chaotic                  | <p>0 — concise and correct or no questions asked</p> <p>1 — some incorrect, inconclusive or too long</p> <p>2 — deeply incorrect or show deep misconceptions</p> |
| 1 — some  | some                                   | some                                | some  | review of sources, cited                  | partly                       | 1 — only technical               | some                                 | avoided some questions              |  |
| 2 — fair  | fair                                   | fair                                | not well fitting                              | some own input                            | average                      | 2 — some scientific              | many                                 | cooperated well                     |  |
| 3 — good  | good                                   | well performed, sufficient number   | deviations qualitatively analysed             | some interesting results                  | interesting solution         | 3 — interesting points discussed | + data/theory convincingly supported | answered directly to most questions |  |
| 4 — detailed demonstrative                          | quite detailed, correct                | + results explained errors analysed | + theory limits explained, conclusive         | considerable experimental or theoretical  | some aspects above average   | 4 — brought in new physics       | proved deep understanding            | efficient, productive               |  |
| 5 — deep and comprehensible, shows physical insight | detailed, complex, completely testable | + reproducible, convincing analysis | well fitting, deviations analysed, conclusive | considerable experimental and theoretical | greater extent than expected |                                  |                                      |                                     |  |

NOTES:

## OPPONENT

Start from 1 and add/subtract

$$1 + \boxed{2} + \boxed{2} + \boxed{3} - \boxed{0} = \boxed{8}$$

| QUESTIONS ASKED  |  | OPPOSITION (SPEECH)   |                               |                           |                                |                | DISCUSSION WITH REPORTER |                     |                           |                        |                | ANSWERS TO JURY and REVIEWER'S QUESTIONS   |
|--|--|-----------------------|-------------------------------|---------------------------|--------------------------------|----------------|--------------------------|---------------------|---------------------------|------------------------|----------------|--|
|  |  | time used             | understanding of presentation | relevant topics addressed | correct own opinions expressed | prioritisation | scientific contribution  | relevance of topics | own opinions presented    | efficiency             | prioritisation |  |
| 0 — almost no, irrelevant                                    |  | 0 — almost no         | almost nothing                | no or irrelevant          | almost no                      | no             | 0 — almost no            | irrelevant          | very little               | almost no              | no             | <p>0 — concise and correct or no questions asked</p> <p>1 — some incorrect, inconclusive or too long</p> <p>2 — deeply incorrect or show deep misconceptions</p> |
| 1 — some relevant, aimed at resolving some unclear points    |  | 1 — very little       | some main points              | few                       | some                           | almost no      | 1 — little               | some                | some                      | to some extent         | almost no      |  |
| 2 — short allowing short answers, prioritized, all time used |  | 2 — not all           | main points                   | some                      | to important topics            | some           | 2 — partial              | average             | some correct              | leading or cooperative | some           |  |
|  |  | 3 — almost all        | all relevant points           | many                      | to most topics                 | reasonable     | 3 — good                 | many                | many correct              | quite efficient        | reasonable     |  |
|  |  | 4 — all & efficiently | practically all points        | practically all           | + improvement suggestions      | very good      | 4 — new crucial point(s) | almost all          | + improvement suggestions | very efficient         | very good      |  |

NOTES:

## REVIEWER

Start from 1 and add/subtract

$$1 + \boxed{2} + \boxed{2} + \boxed{2} - \boxed{0} = \boxed{7}$$

| QUESTIONS ASKED   |  | REVIEW OF REPORT               |                      |                           |                    |                | REVIEW OF OPPOSITION   |                      |                           |                    |                | ANSWERS TO JURY QUESTIONS  |
|---|--|--------------------------------|----------------------|---------------------------|--------------------|----------------|------------------------|----------------------|---------------------------|--------------------|----------------|--|
|   |  | report summary & understanding | discussion analysis  | own opinions              | pros & cons        | prioritisation | speech summary         | discussion analysis  | own opinions              | pros & cons        | prioritisation |  |
| 0 — too few, mostly irrelevant  |  | 0 — poor                       | almost no            | too few                   | irrelevant         | no             | 0 — poor               | almost no            | too few                   | irrelevant         | no             | <p>0 — concise and correct or no questions asked</p> <p>1 — some incorrect, inconclusive or too long</p> <p>2 — deeply incorrect or show deep misconceptions</p> |
| 1 — some relevant, sufficient number, could clear things out                  |  | 1 — partial                    | too short/long       | some                      | partially relevant | almost no      | 1 — too short/long     | too short/long       | some                      | partially relevant | almost no      |  |
| 2 — most time used, many unclear points resolved, aimed at both rep. and opp. |  | 2 — good                       | relevant parts       | many                      | mostly adequate    | some           | 2 — informative, apt   | relevant parts       | many                      | mostly adequate    | some           |  |
| 3 — +short, apt and clear, well prioritized time managed efficiently          |  | 3 — detailed, complex          | accurate, conclusive | + improvement suggestions | fully adequate     | good           | 3 — brief but accurate | accurate, conclusive | + improvement suggestions | fully adequate     | good           |  |
|   |  |                                |                      |                           |                    |                |                        |                      |                           |                    |                |  |

NOTES:



# SCORESHEET

## REPORTER

Start from 1 and add/subtract

$$1 + \boxed{2} + \boxed{1} - \boxed{1} = \boxed{4}$$

stage: 2  
reporter: SEBASTIAN

fight (round no.): 1  
opponent: ALEXSEY

room: C  
problem no.: 2  
reviewer: FLORIAN

Juror's name: PHIL O'NEILL  
signature: 190 M. Will

| REPORT  |  |                                     |  |   |                              | DISCUSSION WITH OPPONENT           |                                      |                                     | ANSWERS TO JURY, OPPONENT and REVIEWER'S QUESTIONS  |
|---|--|-------------------------------------|--|---|------------------------------|------------------------------------|--------------------------------------|-------------------------------------|---|
| phenomenon explanation                              | theory/model                           | relevant experiments                | comparison between theory and experiment                     | own contribution                          | task fulfilment              | scientific contribution            | relevant arguments/responses         | efficiency                          |   |
| 0 — almost no                                       | almost no                              | too few                             | no/ almost no  | others' data, incorrectly cited           | misunderstood                | 0 — almost no                      | too few                              | almost no, chaotic                  | 0 — concise and correct or no questions asked<br>-1 — <u>some incorrect</u> , inconclusive or too long<br>-2 — deeply incorrect or show deep misconceptions |
| 1 — some  | some                                   | some                                | some   | review of sources, cited                  | partly                       | 1 — only technical points cleared  | some                                 | avoided some questions              |   |
| 2 — <u>fair</u>                                     | <u>fair</u>                            | <u>fair</u>                         | not well fitting   | some own input                            | average                      | 2 — some scientific points cleared | <u>many</u>                          | cooperated well                     |   |
| 3 — good  | good                                   | well performed, sufficient number   | deviations   | some interesting results                  | interesting solution         | 3 — interesting points discussed   | + data/theory convincingly supported | answered directly to most questions |   |
| 4 — detailed demonstrative                          | quite detailed, correct                | + results explained errors analysed | qualitatively analysed + theory limits explained, conclusive | considerable experimental or theoretical  | some aspects above average   | 4 — brought in new physics         | proved deep understanding            | efficient, productive               |   |
| 6 — deep and comprehensible, shows physical insight | detailed, complex, completely testable | + reproducible, convincing analysis | well fitting, deviations analysed, conclusive                | considerable experimental and theoretical | greater extent than expected |                                    |                                      |                                     |   |

NOTES:

## OPPONENT

Start from 1 and add/subtract

$$1 + \boxed{1\frac{1}{2}} + \boxed{2} + \boxed{1\frac{1}{2}} - \boxed{\phantom{0}} = \boxed{6}$$

| QUESTIONS ASKED   |  | OPPOSITION (SPEECH) |                               |                           |                                |                   | DISCUSSION WITH REPORTER |                     |                           |                               |                | ANSWERS TO JURY and REVIEWER'S QUESTIONS   |
|---|--|---------------------|-------------------------------|---------------------------|--------------------------------|-------------------|--------------------------|---------------------|---------------------------|-------------------------------|----------------|--|
|   |  | time used           | understanding of presentation | relevant topics addressed | correct own opinions expressed | prioritisation    | scientific contribution  | relevance of topics | own opinions presented    | efficiency                    | prioritisation |  |
| 0 — almost no, irrelevant   |  | almost no           | almost nothing                | no or irrelevant          | almost no                      | no                | 0 — almost no            | irrelevant          | very little               | almost no                     | no             | 0 — <u>concise and correct</u> or no questions asked<br>-1 — some incorrect, inconclusive or too long<br>-2 — deeply incorrect or show deep misconceptions |
| 1 — some relevant, aimed at resolving some unclear points           |  | very little         | some main points              | few                       | <u>some</u>                    | almost no         | 1 — little               | some                | <u>some</u>               | to some extent                | almost no      |  |
| 2 — <u>short</u> allowing short answers, prioritized, all time used |  | not all             | <u>main points</u>            | <u>some</u>               | to important topics            | some              | 2 — <u>partial</u>       | average             | some correct              | leading to <u>cooperative</u> | <u>some</u>    |  |
|   |  | <u>almost all</u>   | all relevant points           | many                      | to most topics                 | <u>reasonable</u> | 3 — good                 | many                | many correct              | quite efficient               | reasonable     |  |
|   |  | all & efficiently   | practically all points        | practically all           | + improvement suggestions      | very good         | 4 — new crucial point(s) | almost all          | + improvement suggestions | very efficient                | very good      |  |
|   |  |                     |                               |                           |                                |                   |                          |                     |                           |                               |                |  |

NOTES:

## REVIEWER

Start from 1 and add/subtract

$$1 + \boxed{2\frac{1}{2}} + \boxed{2} + \boxed{1\frac{1}{2}} - \boxed{\phantom{0}} = \boxed{7}$$

| QUESTIONS ASKED   |  | REVIEW OF REPORT               |                       |                           |                    |                | REVIEW OF OPPOSITION        |                       |                           |                    |                | ANSWERS TO JURY QUESTIONS  |
|---|--|--------------------------------|-----------------------|---------------------------|--------------------|----------------|-----------------------------|-----------------------|---------------------------|--------------------|----------------|--|
|   |  | report summary & understanding | discussion analysis   | own opinions              | pros & cons        | prioritisation | speech summary              | discussion analysis   | own opinions              | pros & cons        | prioritisation |  |
| 0 — too few, mostly irrelevant  |  | poor                           | almost no             | too few                   | irrelevant         | no             | 0 — poor                    | almost no             | too few                   | irrelevant         | no             | 0 — <u>concise and correct</u> or no questions asked<br>-1 — some incorrect, inconclusive or too long<br>-2 — deeply incorrect or show deep misconceptions |
| 1 — some relevant, sufficient number, could clear things out                  |  | partial                        | too short/long        | some                      | partially relevant | almost no      | 1 — too short/long          | too short/long        | <u>some</u>               | partially relevant | almost no      |  |
| 2 — most time used, many unclear points resolved, aimed at both rep. and opp. |  | <u>good</u>                    | <u>relevant parts</u> | <u>many</u>               | mostly adequate    | <u>some</u>    | 2 — <u>informative, apt</u> | <u>relevant parts</u> | many                      | mostly adequate    | <u>some</u>    |  |
| 3 — +short, apt and clear, well prioritized time managed efficiently          |  | detailed, complex              | accurate, conclusive  | + improvement suggestions | fully adequate     | good           | 3 — brief but accurate      | accurate, conclusive  | + improvement suggestions | fully adequate     | good           |  |
|   |  |                                |                       |                           |                    |                |                             |                       |                           |                    |                |  |
|   |  |                                |                       |                           |                    |                |                             |                       |                           |                    |                |  |

NOTES:



# SCORESHEET

## REPORTER

Start from 1 and add/subtract

$$1 + 1,5 + 1,5 - 0,5 = 4$$

stage: 2  
reporter: USA

fight (round no.): 1  
opponent: Russia

room: C  
problem no.: 2  
reviewer: Switzerland

Juror's name: Pavlo Viktor  
signature: *Pavlo*

| REPORT |   |  |                                     |   |   |                              | DISCUSSION WITH OPPONENT |                                |                                      | ANSWERS TO JURY, OPPONENT and REVIEWER'S QUESTIONS |    |  |
|--------|---|--|-------------------------------------|---|---|------------------------------|--------------------------|--------------------------------|--------------------------------------|--|----|--|
|        | phenomenon explanation                          | theory/model                           | relevant experiments                | comparison between theory and experiment      | own contribution                          | task fulfilment              | scientific contribution  | relevant arguments/responses   | efficiency                           |  |    |  |
| 0      | almost no                                       | almost no                              | too few                             | no/ almost no                                 | others' data, incorrectly cited           | misunderstood                | 0                        | almost no                      | too few                              | almost no, chaotic                                 | 0  | concise and correct or no questions asked    |
| 1      | some  | some                                   | some                                | some  | review of sources, cited                  | partly                       | 1                        | only technical points cleared  | some                                 | avoided some questions                             | 1  | some incorrect, inconclusive or too long     |
| 2      | fair  | fair                                   | fair                                | not well fitting                              | some own input                            | average                      | 2                        | some scientific points cleared | many                                 | cooperated well                                    | -1 |  |
| 3      | good  | good                                   | well performed, sufficient number   | deviations qualitatively analysed             | some interesting results                  | interesting solution         | 3                        | interesting points discussed   | + data/theory convincingly supported | answered directly to most questions                | -2 | deeply incorrect or show deep misconceptions |
| 4      | detailed demonstrative                          | quite detailed, correct                | + results explained errors analysed | + theory limits explained, conclusive         | considerable experimental or theoretical  | some aspects above average   | 4                        | brought in new physics         | proved deep understanding            | efficient, productive                              |    |  |
| 5      | deep and comprehensible, shows physical insight | detailed, complex, completely testable | + reproducible, convincing analysis | well fitting, deviations analysed, conclusive | considerable experimental and theoretical | greater extent than expected |                          |                                |                                      |  |    |  |

NOTES:

## OPPONENT

Start from 1 and add/subtract

$$1 + 2 + 3 + 2,5 - 0 = 8$$

| QUESTIONS ASKED |  | OPPOSITION (SPEECH) |                               |                           |                                |                           | DISCUSSION WITH REPORTER |                     |                        |            |                           | ANSWERS TO JURY and REVIEWER'S QUESTIONS |   |  |  |
|-----------------|--|---------------------|-------------------------------|---------------------------|--------------------------------|---------------------------|--------------------------|---------------------|------------------------|------------|---------------------------|--|---|--|--|
| 0               | almost no, irrelevant                                    | time used           | understanding of presentation | relevant topics addressed | correct own opinions expressed | prioritisation            | scientific contribution  | relevance of topics | own opinions presented | efficiency | prioritisation            | 0  | concise and correct or no questions asked |  |  |
| 1               | some relevant, aimed at resolving some unclear points    | 0                   | almost no                     | almost nothing            | no or irrelevant               | almost no                 | no                       | 1                   | little                 | some       | to some extent            | almost no                                | 1   | some incorrect, inconclusive or too long |  |
| 2               | short allowing short answers, prioritized, all time used | 1                   | very little                   | some main points          | few                            | some                      | almost no                | 2                   | partial                | average    | some correct              | leading or cooperative                   | some                                      | -1                                       | deeply incorrect or show deep misconceptions |
|                 |  | 2                   | not all                       | main points               | some                           | to important topics       | some                     | 3                   | good                   | many       | many correct              | quite efficient                          | reasonable                                | -2                                       |  |
|                 |  | 3                   | almost all                    | all relevant points       | many                           | to most topics            | reasonable               | 4                   | new crucial point(s)   | almost all | + improvement suggestions | very efficient                           | very good                                 |  |  |
|                 |  | 4                   | all & efficiently             | practically all points    | practically all                | + improvement suggestions | very good                |                     |                        |            |                           |  |   |  |  |
| NOTES:          |  |                     |                               |                           |                                |                           |                          |                     |                        |            |                           |  |   |  |  |

NOTES:

## REVIEWER

Start from 1 and add/subtract

$$1 + 2 + 2 + 0 - 0,5 = 5$$

| QUESTIONS ASKED |  | REVIEW OF REPORT               |                      |                           |                    |                | REVIEW OF OPPOSITION |                    |                      |                           |                    | ANSWERS TO JURY QUESTIONS |    |  |
|-----------------|--|--------------------------------|----------------------|---------------------------|--------------------|----------------|----------------------|--------------------|----------------------|---------------------------|--------------------|---------------------------|----|--|
| 0               | too few, mostly irrelevant   | report summary & understanding | discussion analysis  | own opinions              | pros & cons        | prioritisation | 0                    | speech summary     | discussion analysis  | own opinions              | pros & cons        | prioritisation            | 0  | concise and correct or no questions asked    |
| 1               | some relevant, sufficient number, could clear things out                 | poor                           | almost no            | too few                   | irrelevant         | no             | 1                    | poor               | almost no            | too few                   | irrelevant         | no                        | 1  | some incorrect, inconclusive or too long     |
| 2               | most time used, many unclear points resolved, aimed at both rep. and opp | partial                        | too short/long       | some                      | partially relevant | almost no      | 2                    | too short/long     | too short/long       | some                      | partially relevant | almost no                 | -1 | some incorrect, inconclusive or too long     |
| 3               | +short, apt and clear, well prioritized time managed efficiently         | good                           | relevant parts       | many                      | mostly adequate    | some           | 3                    | informative, apt   | relevant parts       | many                      | mostly adequate    | some                      | -2 | deeply incorrect or show deep misconceptions |
|                 |  | detailed, complex              | accurate, conclusive | + improvement suggestions | fully adequate     | good           |                      | brief but accurate | accurate, conclusive | + improvement suggestions | fully adequate     | good                      |    |  |

NOTES:



# SCORESHEET

## REPORTER

Start from 1 and add/subtract

$$1 + 1.5 + 1.0 - 0 = 4.0$$

stage: 42  
reporter: USA

fight (round no.): 1  
opponent: RUSSIA

room: C  
problem no.: 2  
reviewer: SWITZERLAND

Juror's name: Tatjana G.S.  
signature: TS

| REPORT |   |  |                                     |   |   |                              | DISCUSSION WITH OPPONENT |                                |                                      | ANSWERS TO JURY, OPPONENT and REVIEWER'S QUESTIONS |    |  |
|--------|---|--|-------------------------------------|---|---|------------------------------|--------------------------|--------------------------------|--------------------------------------|--|----|--|
|        | phenomenon explanation                          | theory/model                           | relevant experiments                | comparison between theory and experiment      | own contribution                          | task fulfilment              | scientific contribution  | relevant arguments/responses   | efficiency                           |  |    |  |
| 0      | almost no                                       | almost no                              | too few                             | no/ almost no                                 | others' data, incorrectly cited           | misunderstood                | 0                        | almost no                      | too few                              | almost no, chaotic                                 | 0  | concise and correct or no questions asked    |
| 1      | some  | some                                   | some                                | some  | review of sources, cited                  | partly                       | 1                        | only technical points cleared  | some                                 | avoided some questions                             | -1 | some incorrect, inconclusive or too long     |
| 2      | fair  | fair                                   | fair                                | not well fitting                              | some own input                            | average                      | 2                        | some scientific points cleared | many                                 | cooperated well                                    | -2 | deeply incorrect or show deep misconceptions |
| 3      | good  | good                                   | well performed, sufficient number   | deviations qualitatively analysed             | some interesting results                  | interesting solution         | 3                        | interesting points discussed   | + data/theory convincingly supported | answered directly to most questions                |    |  |
| 4      | detailed demonstrative                          | quite detailed, correct                | + results explained                 | + theory limits explained, conclusive         | considerable experimental or theoretical  | some aspects above average   | 4                        | brought in new physics         | proved deep understanding            | efficient, productive                              |    |  |
| 5      | deep and comprehensible, shows physical insight | detailed, complex, completely testable | + reproducible, convincing analysis | well fitting, deviations analysed, conclusive | considerable experimental and theoretical | greater extent than expected |                          |                                |                                      |  |    |  |

NOTES:

## OPPONENT

Start from 1 and add/subtract

$$1 + 1.5 + 2.0 - 0 = 7$$

| QUESTIONS ASKED |  | OPPOSITION (SPEECH) |                               |                           |                                |                           | DISCUSSION WITH REPORTER |                      |                        |                           |                        | ANSWERS TO JURY and REVIEWER'S QUESTIONS |  |
|-----------------|--|---------------------|-------------------------------|---------------------------|--------------------------------|---------------------------|--------------------------|----------------------|------------------------|---------------------------|------------------------|--|--|
| 0               | almost no, irrelevant                                    | time used           | understanding of presentation | relevant topics addressed | correct own opinions expressed | prioritisation            | scientific contribution  | relevance of topics  | own opinions presented | efficiency                | prioritisation         | 0  | concise and correct or no questions asked    |
| 1               | some relevant, aimed at resolving some unclear points    | 0                   | almost nothing                | no or irrelevant          | almost no                      | no                        | 0                        | almost no            | irrelevant             | very little               | almost no              | no                                       |  |
| 2               | short allowing short answers, prioritized, all time used | 1                   | very little                   | some main points          | few                            | some                      | 1                        | little               | some                   | some                      | to some extent         | almost no                                | some incorrect,                              |
|                 |  | 2                   | not all                       | main points               | some                           | to important topics       | 2                        | partial              | average                | some correct              | leading or cooperative | some                                     | inconclusive or too long                     |
|                 |  | 3                   | almost all                    | all relevant points       | many                           | to most topics            | 3                        | good                 | many                   | many correct              | quite efficient        | reasonable                               | deeply incorrect or show deep misconceptions |
|                 |  | 4                   | all & efficiently             | practically all points    | practically all                | + improvement suggestions | 4                        | new crucial point(s) | almost all             | + improvement suggestions | very efficient         | very good                                |  |

NOTES:

## REVIEWER

Start from 1 and add/subtract

$$1 + 2.0 + 2.0 + 0.5 - 0.5 = 5$$

| QUESTIONS ASKED |   | REVIEW OF REPORT               |                      |                           |                    |                | REVIEW OF OPPOSITION |                      |                           |                    |                | ANSWERS TO JURY QUESTIONS |  |
|-----------------|---|--------------------------------|----------------------|---------------------------|--------------------|----------------|----------------------|----------------------|---------------------------|--------------------|----------------|---------------------------|--|
| 0               | too few, mostly irrelevant  | report summary & understanding | discussion analysis  | own opinions              | pros & cons        | prioritisation | speech summary       | discussion analysis  | own opinions              | pros & cons        | prioritisation | 0                         | concise and correct or no questions asked    |
| 1               | some relevant, sufficient number, could clear things out                  | poor                           | almost no            | too few                   | irrelevant         | no             | poor                 | almost no            | too few                   | irrelevant         | no             | -1                        | some incorrect, inconclusive or too long     |
| 2               | most time used, many unclear points resolved, aimed at both rep. and opp. | partial                        | too short/long       | some                      | partially relevant | almost no      | too short/long       | too short/long       | some                      | partially relevant | almost no      | -2                        | deeply incorrect or show deep misconceptions |
| 3               | +short, apt and clear, well prioritized time managed efficiently          | good                           | relevant parts       | many                      | mostly adequate    | some           | informative, apt     | relevant parts       | many                      | mostly adequate    | some           |                           |  |
|                 |   | detailed, complex              | accurate, conclusive | + improvement suggestions | fully adequate     | good           | brief but accurate   | accurate, conclusive | + improvement suggestions | fully adequate     | good           |                           |  |

NOTES:



# SCORESHEET

## REPORTER

Start from 1 and add/subtract

$$1 + 0.75 + 1.75 - \boxed{\phantom{00}} = \boxed{4}$$

stage: 2

fight (round no.): 1

room: C

problem no.: 2

Juror's name: L. G. G. G. G.

reporter: USA

opponent: RUSSIA

reviewer: SWITZERLAND

signature: [Signature]

| REPORT |   |  |                                     |   |   | DISCUSSION WITH OPPONENT     |                                |                                      | ANSWERS TO JURY, OPPONENT and REVIEWER'S QUESTIONS |   |  |
|--------|---|--|-------------------------------------|---|---|------------------------------|--------------------------------|--------------------------------------|--|---|--|
|        | phenomenon explanation                          | theory/model                           | relevant experiments                | comparison between theory and experiment      | own contribution                          | task fulfilment              | scientific contribution        | relevant arguments/responses         | efficiency   |   |  |
| 0      | almost no                                       | almost no                              | too few                             | no/ almost no                                 | others data, incorrectly cited            | misunderstood                | almost no                      | too few                              | almost no, chaotic                                 | 0 | concise and correct or                       |
| 1      | some  | some                                   | some                                | some  | review of sources, cited                  | partly                       | only technical points cleared  | some                                 | avoided some questions                             | 1 | no questions asked                           |
| 2      | fair  | fair                                   | fair                                | not well fitting                              | some own input                            | average                      | some scientific points cleared | many                                 | cooperated well                                    | 2 | some incorrect, inconclusive or too long     |
| 3      | good  | good                                   | well performed, sufficient number   | deviations qualitatively analysed             | some interesting results                  | interesting solution         | interesting points discussed   | + data/theory convincingly supported | answered directly to most questions                | 3 | deeply incorrect or show deep misconceptions |
| 4      | detailed demonstrative                          | quite detailed, correct                | + results explained                 | + theory limits explained, conclusive         | considerable experimental or theoretical  | some aspects above average   | brought in new physics         | proved deep understanding            | efficient, productive                              | 4 |  |
| 5      | deep and comprehensible, shows physical insight | detailed, complex, completely testable | + reproducible, convincing analysis | well fitting, deviations analysed, conclusive | considerable experimental and theoretical | greater extent than expected |                                |                                      |  |   |  |
| 6      |   |  |                                     |   |   |                              |                                |                                      |  |   |  |

NOTES:

## OPPONENT

Start from 1 and add/subtract

$$1 + 1.5 + 2 + 2 - 1 = 6$$

| QUESTIONS ASKED |  | OPPOSITION (SPEECH) |                               |                           |                                |                           | DISCUSSION WITH REPORTER |                      |                        |                           |                        | ANSWERS TO JURY and REVIEWER'S QUESTIONS |  |
|-----------------|--|---------------------|-------------------------------|---------------------------|--------------------------------|---------------------------|--------------------------|----------------------|------------------------|---------------------------|------------------------|--|--|
| 0               | almost no, irrelevant                                    | time used           | understanding of presentation | relevant topics addressed | correct own opinions expressed | prioritisation            | scientific contribution  | relevance of topics  | own opinions presented | efficiency                | prioritisation         | 0  | concise and correct or no questions asked    |
| 1               | some relevant, aimed at resolving some unclear points    | 0                   | almost no                     | no or irrelevant          | almost no                      | no                        | 0                        | almost no            | irrelevant             | very little               | almost no              | no                                       |  |
| 1               |  | 1                   | very little                   | some main points          |                                | almost no                 | 1                        | little               | some                   | some                      | to some extent         | almost no                                | some incorrect,                              |
| 2               | short allowing short answers, prioritized, all time used | 2                   | not all                       | main points               | some                           | to important topics       | 2                        | partial              | average                | some correct              | leading or cooperative | some                                     | inconclusive or too long                     |
|                 |  | 3                   | almost all                    | all relevant points       | many                           | to most topics            | 3                        | good                 | many                   | many correct              | quite efficient        | reasonable                               | -1   |
| NOTES:          |  | 4                   | all & efficiently             | practically all points    | practically all                | + improvement suggestions | 4                        | new crucial point(s) | almost all             | + improvement suggestions | very efficient         | very good                                | -2   |
|                 |  |                     |                               |                           |                                | very good                 |                          |                      |                        |                           |                        |  | deeply incorrect or show deep misconceptions |

NOTES:

## REVIEWER

Start from 1 and add/subtract

$$1 + 2 + 1.5 + 1.5 - 1 = 5$$

| QUESTIONS ASKED |   | REVIEW OF REPORT               |                      |                           |                    |                | REVIEW OF OPPOSITION |                      |                           |                    |                | ANSWERS TO JURY QUESTIONS |  |
|-----------------|---|--------------------------------|----------------------|---------------------------|--------------------|----------------|----------------------|----------------------|---------------------------|--------------------|----------------|---------------------------|--|
| 0               | too few, mostly irrelevant  | report summary & understanding | discussion analysis  | own opinions              | pros & cons        | prioritisation | speech summary       | discussion analysis  | own opinions              | pros & cons        | prioritisation | 0                         | concise and correct or no questions asked    |
| 1               | some relevant, sufficient number, could clear things out                  | poor                           | almost no            | too few                   | irrelevant         | no             | poor                 | almost no            | too few                   | irrelevant         | no             | 1                         | some incorrect, inconclusive or too long     |
| 2               | most time used, many unclear points resolved, aimed at both rep. and opp. | partial                        | too short/long       | some                      | partially relevant | almost no      | too short/long       | too short/long       | some                      | partially relevant | almost no      | -1                        | deeply incorrect or show deep misconceptions |
| 3               | +short, apt and clear, well prioritized time managed efficiently          | good                           | relevant parts       | many                      | mostly adequate    | some           | informative, apt     | relevant parts       | many                      | mostly adequate    | some           | -2                        |  |
|                 |   | detailed, complex              | accurate, conclusive | + improvement suggestions | fully adequate     | good           | brief but accurate   | accurate, conclusive | + improvement suggestions | fully adequate     | good           |                           |  |

NOTES:



# SCORESHEET

## REPORTER

Start from 1 and add/subtract

$$1 + \boxed{2} + \boxed{1} - \boxed{\phantom{0}} = \boxed{5}$$

stage: 1  
reporter: USA

fight (round no.): 2  
opponent: RUS

room: C problem no.: 2  
reviewer: SWITZLAND

Juror's name: Feng Song  
signature: Feng Song

| REPORT  |  |  |   |  |  | DISCUSSION WITH OPPONENT  |  |   | ANSWERS TO JURY, OPPONENT and REVIEWER'S QUESTIONS                            |
|---|--|--|---|--|--|---|--|---|---|
| phenomenon explanation                              | theory/model                             | relevant experiments                     | comparison between theory and experiment          | own contribution                                   | task fulfilment  | scientific contribution   | relevant arguments/responses             | efficiency  |   |
| 0 — almost no                                       | almost no                                | too few                                  | <input checked="" type="checkbox"/> no/ almost no | others' data, incorrectly cited                    | misunderstood  | 0 — almost no   | too few                                  | almost no, chaotic                                  | <input checked="" type="checkbox"/> concise and correct or no questions asked |
| 1 — some  | <input checked="" type="checkbox"/> some | some                                     | <input checked="" type="checkbox"/> some          | review of sources, cited                           | partly   | 1 — <input checked="" type="checkbox"/> only technical points cleared | <input checked="" type="checkbox"/> some | avoided some questions                              |   |
| 2 — <input checked="" type="checkbox"/> fair        | fair                                     | <input checked="" type="checkbox"/> fair | not well fitting                                  | <input checked="" type="checkbox"/> some own input | average  | 2 — some scientific points cleared                                    | many                                     | <input checked="" type="checkbox"/> cooperated well | — some incorrect, inconclusive or too long                                    |
| 3 — good  | good                                     | well performed, sufficient number        | deviations qualitatively analysed                 | some interesting results                           | <input checked="" type="checkbox"/> interesting solution | 3 — interesting points discussed                                      | + data/theory convincingly supported     | answered directly to most questions                 | — deeply incorrect or show deep misconceptions                                |
| 4 — detailed demonstrative                          | quite detailed, correct                  | + results explained errors analysed      | + theory limits explained, conclusive             | considerable experimental or theoretical           | some aspects above average                               | 4 — brought in new physics  | proved deep understanding                | efficient, productive                               |   |
| 5 — deep and comprehensible, shows physical insight | detailed, complex, completely testable   | + reproducible, convincing analysis      | well fitting, deviations analysed, conclusive     | considerable experimental and theoretical          | greater extent than expected                             |   |  |   |   |

NOTES:

## OPPONENT

Start from 1 and add/subtract

$$1 + \boxed{1} + \boxed{2} + \boxed{2} - \boxed{0} = \boxed{6}$$

| QUESTIONS ASKED  |                                     | OPPOSITION (SPEECH)                             |   |  |                                |  | DISCUSSION WITH REPORTER                       |  |                           |                        |  | ANSWERS TO JURY and REVIEWER'S QUESTIONS                                      |
|--|-------------------------------------|---|---|--|--------------------------------|--|--|--|---------------------------|------------------------|--|---|
|  |                                     | time used                                       | understanding of presentation                   | relevant topics addressed                | correct own opinions expressed | prioritisation                           | scientific contribution                        | relevance of topics                      | own opinions presented    | efficiency             | prioritisation                           |   |
| 0 — almost no, irrelevant                                    |                                     | almost no                                       | almost nothing                                  | no or irrelevant                         | almost no                      | no                                       | 0 — almost no                                  | irrelevant                               | very little               | almost no              | no                                       | <input checked="" type="checkbox"/> concise and correct or no questions asked |
| 1 — some relevant, aimed at resolving some unclear points    | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> very little | some main points                                | few                                      | some                           | almost no                                | 1 — <input checked="" type="checkbox"/> little | <input checked="" type="checkbox"/> some | /some                     | to some extent         | almost no                                |   |
| 2 — short allowing short answers, prioritized, all time used |                                     | not all   | <input checked="" type="checkbox"/> main points | some                                     | to important topics            | <input checked="" type="checkbox"/> some | 2 — partial                                    | average                                  | some correct              | leading or cooperative | <input checked="" type="checkbox"/> some | — some incorrect, inconclusive or too long                                    |
|  |                                     | almost all                                      | all relevant points                             | <input checked="" type="checkbox"/> many | to most topics                 | reasonable                               | 3 — good                                       | many                                     | many correct              | quite efficient        | reasonable                               | — deeply incorrect or show deep misconceptions                                |
|  |                                     | all & efficiently                               | practically all points                          | practically all                          | + improvement suggestions      | very good                                | 4 — new crucial point(s)                       | almost all                               | + improvement suggestions | very efficient         | very good                                |   |

NOTES:

## REVIEWER

Start from 1 and add/subtract

$$1 + \boxed{1} + \boxed{2} + \boxed{2} - \boxed{\phantom{0}} = \boxed{6}$$

| QUESTIONS ASKED   |                                     | REVIEW OF REPORT               |                      |  |                    |                | REVIEW OF OPPOSITION   |                      |  |                    |                | ANSWERS TO JURY QUESTIONS   |
|---|-------------------------------------|--------------------------------|----------------------|--|--------------------|----------------|------------------------|----------------------|--|--------------------|----------------|---|
|   |                                     | report summary & understanding | discussion analysis  | own opinions                             | pros & cons        | prioritisation | speech summary         | discussion analysis  | own opinions                             | pros & cons        | prioritisation |   |
| 0 — too few, mostly irrelevant  |                                     | poor                           | almost no            | too few                                  | irrelevant         | no             | 0 — poor               | almost no            | too few                                  | irrelevant         | no             | <input checked="" type="checkbox"/> concise and correct or no questions asked |
| 1 — some relevant, sufficient number, could clear things out                  | <input checked="" type="checkbox"/> | partial                        | too short/long       | <input checked="" type="checkbox"/> some | partially relevant | almost no      | 1 — too short/long     | too short/long       | <input checked="" type="checkbox"/> some | partially relevant | almost no      |   |
| 2 — most time used, many unclear points resolved, aimed at both rep. and opp. |                                     | good                           | relevant parts       | many                                     | mostly adequate    | some           | 2 — informative, apt   | relevant parts       | many                                     | mostly adequate    | some           | — some incorrect, inconclusive or too long                                    |
| 3 — +short, apt and clear, well prioritized time managed efficiently          |                                     | detailed, complex              | accurate, conclusive | + improvement suggestions                | fully adequate     | good           | 3 — brief but accurate | accurate, conclusive | + improvement suggestions                | fully adequate     | good           | — deeply incorrect or show deep misconceptions                                |

NOTES:



# SCORESHEET

## REPORTER

Start from 1 and add/subtract

$$1 + 4 + 3 - \square = 8$$

stage: 1  
reporter: XIAO YU

fight (round no.): 1  
opponent: ANNA CASSEY  
room: C  
problem no.: 16  
reviewer: IVAN ILIN

Juror's name: PHIL O'NEILL  
signature: 190. Mille

| REPORT |   |  |                                     |   |   |                              | DISCUSSION WITH OPPONENT       |                                      |                                     | ANSWERS TO JURY, OPPONENT and REVIEWER'S QUESTIONS |  |
|--------|---|--|-------------------------------------|---|---|------------------------------|--------------------------------|--------------------------------------|-------------------------------------|--|--|
|        | phenomenon explanation                          | theory/model                           | relevant experiments                | comparison between theory and experiment      | own contribution                          | task fulfilment              | scientific contribution        | relevant arguments/responses         | efficiency                          |  |  |
| 0      | almost no                                       | almost no                              | too few                             | no/ almost no                                 | others' data, incorrectly cited           | misunderstood                | almost no                      | too few                              | almost no, chaotic                  | 0  | concise and correct or no questions asked    |
| 1      | some  | some                                   | some                                | some  | review of sources, cited                  | partly                       | only technical points cleared  | some                                 | avoided some questions              | 1  | some incorrect, inconclusive or too long     |
| 2      | fair  | fair                                   | fair                                | not well fitting                              | some own input                            | average                      | some scientific points cleared | many                                 | cooperated well                     | 2  | deeply incorrect or show deep misconceptions |
| 3      | good  | good                                   | well performed, sufficient number   | deviations qualitatively analysed             | some interesting results                  | interesting solution         | interesting points discussed   | + data/theory convincingly supported | answered directly to most questions | 3  |  |
| 4      | detailed demonstrative                          | quite detailed, correct                | + results explained errors analysed | + theory limits explained, conclusive         | considerable experimental or theoretical  | some aspects above average   | brought in new physics         | proved deep understanding            | efficient, productive               | 4  |  |
| 5      | deep and comprehensible, shows physical insight | detailed, complex, completely testable | + reproducible, convincing analysis | well fitting, deviations analysed, conclusive | considerable experimental and theoretical | greater extent than expected |                                |                                      |                                     |  |  |
| 6      |   |  |                                     |   |   |                              |                                |                                      |                                     |  |  |

NOTES:

## OPPONENT

Start from 1 and add/subtract

$$1 + 1.5 + 1.1 + 1 - 0 = 5$$

| QUESTIONS ASKED  | OPPOSITION (SPEECH)                       | DISCUSSION WITH REPORTER          | ANSWERS TO JURY and REVIEWER'S QUESTIONS         |
|--|---|-----------------------------------|--|
| 0 — almost no, irrelevant                                    | time used almost no                       | scientific contribution almost no | 0 — concise and correct or no questions asked    |
| 1 — some relevant, aimed at resolving some unclear points    | understanding of presentation very little | relevance of topics little        | 1 — some incorrect, inconclusive or too long     |
| 2 — short allowing short answers, prioritized, all time used | relevant topics addressed few             | own opinions presented some       | 2 — deeply incorrect or show deep misconceptions |
|  | correct own opinions expressed some       | efficiency to some extent         |  |
|  | prioritisation almost no                  | prioritisation almost no          |  |
|  | 1 — very little                           | 1 — little                        |  |
|  | 2 — not all                               | 2 — partial                       |  |
|  | 3 — almost all                            | 3 — good                          |  |
|  | 4 — all & efficiently                     | 4 — new crucial point(s)          |  |

NOTES:

## REVIEWER

Start from 1 and add/subtract

$$1 + 2 + 2 + 0 - 0 = 5$$

| QUESTIONS ASKED   | REVIEW OF REPORT                    | REVIEW OF OPPOSITION          | ANSWERS TO JURY QUESTIONS                        |
|---|-------------------------------------|-------------------------------|--|
| 0 — too few, mostly irrelevant  | report summary & understanding poor | speech summary poor           | 0 — concise and correct or no questions asked    |
| 1 — some relevant, sufficient number, could clear things out                  | discussion analysis almost no       | discussion analysis almost no | 1 — some incorrect, inconclusive or too long     |
| 2 — most time used, many unclear points resolved, aimed at both rep. and opp. | own opinions too few                | own opinions too few          | 2 — deeply incorrect or show deep misconceptions |
| 3 — +short, apt and clear, well prioritized time managed efficiently          | pros & cons irrelevant              | pros & cons irrelevant        |  |
|   | prioritisation no                   | prioritisation no             |  |
|   | 1 — partial                         | 1 — too short/long            |  |
|   | 2 — good                            | 2 — informative, apt          |  |
|   | 3 — detailed, complex               | 3 — brief but accurate        |  |

NOTES:



# SCORESHEET

## REPORTER

Start from 1 and add/subtract

$$1 + 2,5 + 2,5 - 0 = 6$$

stage: 1

fight (round no.): 1

room: C

problem no.: 16

Juror's name: Pavlo Viktor

reporter: Switzerland

opponent: USA

reviewer: Russia

signature: 

| REPORT  |  |                                       |   |   |                                | DISCUSSION WITH OPPONENT              |  |  | ANSWERS TO JURY, OPPONENT and REVIEWER'S QUESTIONS   |
|---|--|---------------------------------------|---|---|--------------------------------|---------------------------------------|--|--|--|
| phenomenon explanation                            | theory/model                             | relevant experiments                  | comparison between theory and experiment        | own contribution                            | task fulfilment                | scientific contribution               | relevant arguments/responses           | efficiency                                   |  |
| 0 almost no                                       | 0 almost no                              | 0 too few                             | 0 no/ almost no                                 | 0 others' data, incorrectly cited           | 0 misunderstood                | 0 almost no                           | 0 too few                              | 0 almost no, chaotic                         | 0 <u>concise and correct or no questions asked</u><br>-1 some incorrect, inconclusive or too long<br>-2 deeply incorrect or show deep misconceptions |
| 1 some  | 1 some                                   | 1 some                                | 1 some  | 1 review of sources, cited                  | 1 partly                       | 1 only technical                      | 1 some                                 | 1 avoided some questions                     |  |
| 2 <u>fair</u>                                     | 2 <u>fair</u>                            | 2 <u>fair</u>                         | 2 not well fitting                              | 2 <u>some own input</u>                     | 2 <u>average</u>               | 2 some scientific                     | 2 <u>many</u>                          | 2 cooperated well                            |  |
| 3 good  | 3 <u>good</u>                            | 3 well performed, sufficient number   | 3 <u>deviations qualitatively analysed</u>      | 3 some interesting results                  | 3 interesting solution         | 3 <u>interesting points discussed</u> | 3 + data/theory convincingly supported | 3 <u>answered directly to most questions</u> |  |
| 4 detailed demonstrative                          | 4 quite detailed, correct                | 4 + results explained                 | 4 + theory limits explained, conclusive         | 4 considerable experimental or theoretical  | 4 some aspects above average   | 4 brought in new physics              | 4 proved deep understanding            | 4 efficient, productive                      |  |
| 5 deep and comprehensible, shows physical insight | 5 detailed, complex, completely testable | 5 + reproducible, convincing analysis | 5 well fitting, deviations analysed, conclusive | 5 considerable experimental and theoretical | 5 greater extent than expected |                                       |  |  |  |

NOTES:

## OPPONENT

Start from 1 and add/subtract

$$1 + 1 + 3 + 2,5 - 0 = 8$$

| QUESTIONS ASKED  |  | OPPOSITION (SPEECH) |                               |                           |                                |                | DISCUSSION WITH REPORTER |                     |                             |                          |                | ANSWERS TO JURY and REVIEWER'S QUESTIONS   |
|--|--|---------------------|-------------------------------|---------------------------|--------------------------------|----------------|--------------------------|---------------------|-----------------------------|--------------------------|----------------|--|
|  |  | time used           | understanding of presentation | relevant topics addressed | correct own opinions expressed | prioritisation | scientific contribution  | relevance of topics | own opinions presented      | efficiency               | prioritisation |  |
| 0 almost no, irrelevant                                    | 0 <u>some relevant, aimed at resolving some unclear points</u> | 0 almost no         | 0 almost nothing              | 0 no or irrelevant        | 0 almost no                    | 0 no           | 0 almost no              | 0 irrelevant        | 0 very little               | 0 almost no              | 0 no           | 0 <u>concise and correct or no questions asked</u><br>-1 some incorrect, inconclusive or too long<br>-2 deeply incorrect or show deep misconceptions |
| 1  | 1  | 1 very little       | 1 some main points            | 1 few                     | 1 some                         | 1 almost no    | 1 little                 | 1 some              | 1 some                      | 1 to some extent         | 1 almost no    |  |
| 2 short allowing short answers, prioritized, all time used | 2  | 2 not all           | 2 <u>main points</u>          | 2 some                    | 2 <u>to important topics</u>   | 2 some         | 2 <u>partial</u>         | 2 average           | 2 <u>some correct</u>       | 2 leading or cooperative | 2 some         |  |
|  | 3  | 3 <u>almost all</u> | 3 <u>all relevant points</u>  | 3 <u>many</u>             | 3 to most topics               | 3 reasonable   | 3 good                   | 3 <u>many</u>       | 3 many correct              | 3 <u>quite efficient</u> | 3 reasonable   |  |
|  | 4  | 4 all & efficiently | 4 practically all points      | 4 practically all         | 4 + improvement suggestions    | 4 very good    | 4 new crucial point(s)   | 4 almost all        | 4 + improvement suggestions | 4 very efficient         | 4 very good    |  |

NOTES:

## REVIEWER

Start from 1 and add/subtract

$$1 + 2 + 2 + 1 - 0 = 6$$

| QUESTIONS ASKED  |  | REVIEW OF REPORT               |                         |                             |                          |                | REVIEW OF OPPOSITION    |                         |                             |                             |                | ANSWERS TO JURY QUESTIONS  |
|--|--|--------------------------------|-------------------------|-----------------------------|--------------------------|----------------|-------------------------|-------------------------|-----------------------------|-----------------------------|----------------|--|
|  |  | report summary & understanding | discussion analysis     | own opinions                | pros & cons              | prioritisation | speech summary          | discussion analysis     | own opinions                | pros & cons                 | prioritisation |  |
| 0 too few, mostly irrelevant   | 0 some relevant, sufficient number, could clear things out | 0 poor                         | 0 almost no             | 0 too few                   | 0 irrelevant             | 0 no           | 0 poor                  | 0 almost no             | 0 too few                   | 0 irrelevant                | 0 no           | 0 <u>concise and correct or no questions asked</u><br>-1 some incorrect, inconclusive or too long<br>-2 deeply incorrect or show deep misconceptions |
| 1  | 1  | 1 partial                      | 1 too short/long        | 1 some                      | 1 partially relevant     | 1 almost no    | 1 <u>too short/long</u> | 1 <u>too short/long</u> | 1 <u>some</u>               | 1 <u>partially relevant</u> | 1 almost no    |  |
| 2 <u>most time used, many unclear points resolved, aimed at both rep. and opp.</u> | 2  | 2 <u>good</u>                  | 2 <u>relevant parts</u> | 2 <u>many</u>               | 2 <u>mostly adequate</u> | 2 some         | 2 informative, apt      | 2 relevant parts        | 2 many                      | 2 mostly adequate           | 2 some         |  |
| 3 +short, apt and clear, well prioritized time managed efficiently                 | 3  | 3 detailed, complex            | 3 accurate, conclusive  | 3 + improvement suggestions | 3 fully adequate         | 3 good         | 3 brief but accurate    | 3 accurate, conclusive  | 3 + improvement suggestions | 3 fully adequate            | 3 good         |  |
|  |  |                                |                         |                             |                          |                |                         |                         |                             |                             |                |  |

NOTES:



# SCORESHEET

stage: 1

fight (round no.): 1

room: C

problem no.: 16

Juror's name: Tatyana G.S

reporter: SWITZERLAND

opponent: USA

reviewer: RUSSIA

signature: TGS

## REPORTER

Start from 1 and add/subtract

$$1 + 2.5 + 2.0 - 0 = 6.0$$

## REPORT

|   | phenomenon explanation                          | theory/model                           | relevant experiments                | comparison between theory and experiment      | own contribution                          | task fulfilment              |
|---|---|--|-------------------------------------|---|---|------------------------------|
| 0 | almost no                                       | almost no                              | too few                             | no/ almost no                                 | others' data, incorrectly cited           | misunderstood                |
| 1 | some  | some                                   | some                                | some  | review of sources, cited                  | partly                       |
| 2 | fair  | fair                                   | fair                                | not well fitting deviations                   | some own input                            | average                      |
| 3 | good  | good                                   | well performed, sufficient number   | qualitatively analysed                        | some interesting results                  | interesting solution         |
| 4 | detailed  | quite detailed, correct                | + results explained                 | + theory limits                               | considerable experimental or theoretical  | some aspects above average   |
| 5 | demonstrative                                   | detailed, complex, completely testable | errors analysed                     | explained, conclusive                         | considerable experimental and theoretical | greater extent than expected |
| 6 | deep and comprehensible, shows physical insight |  | + reproducible, convincing analysis | well fitting, deviations analysed, conclusive |   |                              |

## DISCUSSION WITH OPPONENT

|   | scientific contribution        | relevant arguments/responses         | efficiency                          |
|---|--------------------------------|--------------------------------------|-------------------------------------|
| 0 | almost no                      | too few                              | almost no, chaotic                  |
| 1 | only technical                 | some                                 | avoided some questions              |
| 2 | points cleared                 | many                                 | cooperated well                     |
| 3 | some scientific points cleared |                                      |                                     |
| 4 | interesting points discussed   | + data/theory convincingly supported | answered directly to most questions |
| 5 | brought in new physics         | proved deep understanding            | efficient, productive               |

## ANSWERS TO JURY, OPPONENT and REVIEWER'S QUESTIONS

- 0 concise and correct or no questions asked
- 1 some incorrect, inconclusive or too long
- 2 deeply incorrect or show deep misconceptions

## NOTES:

## OPPONENT

Start from 1 and add/subtract

$$1 + 1 + 2 + 2.0 - 0 = 6.0$$

## QUESTIONS ASKED

- 0 almost no, irrelevant
- 1 some relevant, aimed at resolving some unclear points
- 2 short allowing short answers, prioritized, all time used

## OPPOSITION (SPEECH)

|   | time used         | understanding of presentation | relevant topics addressed | correct own opinions expressed | prioritisation |
|---|-------------------|-------------------------------|---------------------------|--------------------------------|----------------|
| 0 | almost no         | almost nothing                | no or irrelevant          | almost no                      | no             |
| 1 | very little       | some main points              | few                       | some                           | almost no      |
| 2 | not all           | main points                   | some                      | to important topics            | some           |
| 3 | almost all        | all relevant points           | many                      | to most topics                 | reasonable     |
| 4 | all & efficiently | practically all points        | practically all           | + improvement suggestions      | very good      |

## DISCUSSION WITH REPORTER

|   | scientific contribution | relevance of topics | own opinions presented    | efficiency             | prioritisation |
|---|-------------------------|---------------------|---------------------------|------------------------|----------------|
| 0 | almost no               | irrelevant          | very little               | almost no              | no             |
| 1 | little                  | some                | some                      | to some extent         | almost no      |
| 2 | partial                 | average             | some correct              | leading or cooperative | some           |
| 3 | good                    | many                | many correct              | quite efficient        | reasonable     |
| 4 | new crucial point(s)    | almost all          | + improvement suggestions | very efficient         | very good      |

## ANSWERS TO JURY and REVIEWER'S QUESTIONS

- 0 concise and correct or no questions asked
- 1 some incorrect, inconclusive or too long
- 2 deeply incorrect or show deep misconceptions

## NOTES:

## REVIEWER

Start from 1 and add/subtract

$$1 + 2 + 2.0 + 1.0 - 0 = 6.0$$

## QUESTIONS ASKED

- 0 too few, mostly irrelevant
- 1 some relevant, sufficient number, could clear things out
- 2 most time used, many unclear points resolved, aimed at both rep. and opp.
- 3 +short, apt and clear, well prioritized time managed efficiently

## REVIEW OF REPORT

|   | report summary & understanding | discussion analysis  | own opinions              | pros & cons        | prioritisation |
|---|--------------------------------|----------------------|---------------------------|--------------------|----------------|
| 0 | poor                           | almost no            | too few                   | irrelevant         | no             |
| 1 | partial                        | too short/long       | some                      | partially relevant | almost no      |
| 2 | good                           | relevant parts       | many                      | mostly adequate    | some           |
| 3 | detailed, complex              | accurate, conclusive | + improvement suggestions | fully adequate     | good           |

## REVIEW OF OPPOSITION

|   | speech summary     | discussion analysis  | own opinions              | pros & cons        | prioritisation |
|---|--------------------|----------------------|---------------------------|--------------------|----------------|
| 0 | poor               | almost no            | too few                   | irrelevant         | no             |
| 1 | too short/long     | too short/long       | some                      | partially relevant | almost no      |
| 2 | informative, apt   | relevant parts       | many                      | mostly adequate    | some           |
| 3 | brief but accurate | accurate, conclusive | + improvement suggestions | fully adequate     | good           |

## ANSWERS TO JURY QUESTIONS

- 0 concise and correct or no questions asked
- 1 some incorrect, inconclusive or too long
- 2 deeply incorrect or show deep misconceptions

## NOTES:



stage: 1 fight (round no.): 1 room: C problem no.: 16  
reporter: SWITZERLAND opponent: USA reviewer: RUSSIA Juror's name: L. Glöckner  
signature: [Signature]

Start from 1 and add/subtract

$$1 + \boxed{3} + \boxed{1} - \boxed{\phantom{0}} = \boxed{5}$$

|   | phenomenon explanation                          | theory/model                           | relevant experiments                | comparison between theory and experiment      | own contribution                          | task fulfilment              |
|---|---|--|-------------------------------------|---|---|------------------------------|
| 0 | almost no                                       | almost no                              | too few                             | no/ almost no                                 | others' data, incorrectly cited           | misunderstood                |
| 1 | some  | some                                   | some                                | some  | review of sources, cited                  | partly                       |
| 2 | fair  | fair                                   | fair                                | not well fitting                              | some own input                            | average                      |
| 3 | good  | good                                   | well performed, sufficient number   | deviations qualitatively analysed             | some interesting results                  | interesting solution         |
| 4 | detailed demonstrative                          | quite detailed, correct                | + results explained errors analysed | + theory limits explained, conclusive         | considerable experimental or theoretical  | some aspects above average   |
| 5 | deep and comprehensible, shows physical insight | detailed, complex, completely testable | + reproducible, convincing analysis | well fitting, deviations analysed, conclusive | considerable experimental and theoretical | greater extent than expected |

|   | scientific contribution        | relevant arguments/responses         | efficiency                          |
|---|--------------------------------|--------------------------------------|-------------------------------------|
| 0 | almost no                      | too few                              | almost no, chaotic                  |
| 1 | only technical points cleared  | some                                 | avoided some questions              |
| 2 | some scientific points cleared | many                                 | cooperated well                     |
| 3 | interesting points discussed   | + data/theory convincingly supported | answered directly to most questions |
| 4 | brought in new physics         | proved deep understanding            | efficient, productive               |

0 \_\_\_\_\_ concise and correct or  
no questions asked

-1 \_\_\_\_\_ some incorrect,  
inconclusive or too long

-2 \_\_\_\_\_ deeply incorrect or show  
deep misconceptions

Start from 1 and add/subtract

$$1 + 1.0 + 1.75 + 2 - 0 = 6$$

- 0 — almost no, irrelevant
- 1 — some relevant, aimed at resolving some unclear points
- 2 — short allowing short answers, prioritized, all time used

|   | time used         | understanding of presentation | relevant topics addressed | correct own opinions expressed | prioritisation |
|---|-------------------|-------------------------------|---------------------------|--------------------------------|----------------|
| 0 | almost no         | almost nothing                | no or irrelevant          | almost no                      | no             |
| 1 | very little       | some main points              | few                       | some                           | almost no      |
| 2 | not all           | main points                   | some                      | to important topics            | some           |
| 3 | almost all        | all relevant points           | many                      | to most topics                 | reasonable     |
| 4 | all & efficiently | practically all points        | practically all           | + improvement suggestions      | very good      |

|   | scientific contribution | relevance of topics | own opinions presented    | efficiency             | prioritisation |
|---|-------------------------|---------------------|---------------------------|------------------------|----------------|
| 0 | almost no               | irrelevant          | very little               | almost no              | no             |
| 1 | little                  | some                | some                      | to some extent         | almost no      |
| 2 | partial                 | average             | some correct              | leading or cooperative | some           |
| 3 | good                    | many                | many correct              | quite efficient        | reasonable     |
| 4 | new crucial point(s)    | almost all          | + improvement suggestions | very efficient         | very good      |

0 concise and correct or no questions asked

-1 some incorrect, inconclusive or too long

-2 deeply incorrect or show deep misconceptions

Start from 1 and add/subtract

$$1 + 1.5 + 1.5 + 2 - 0 = 6$$

- 0 — too few, mostly irrelevant
- some relevant, sufficient number, could
- 1 — clear things out
- ② — most time used, many unclear points
- resolved, aimed at both rep. and opp.
- +short, apt and clear, well prioritized
- 3 — time managed efficiently

|   | report summary<br>& understanding | discussion<br>analysis  | own opinions                 | pros & cons        | prioritisation |
|---|-----------------------------------|-------------------------|------------------------------|--------------------|----------------|
| 0 | poor                              | almost no               | too few                      | irrelevant         | no             |
| 1 | partial                           | too short/long          | some                         | partially relevant | almost no      |
| 2 | good                              | relevant parts          | many                         | mostly adequate    | some           |
| 3 | detailed,<br>complex              | accurate,<br>conclusive | + improvement<br>suggestions | fully<br>adequate  | good           |

|   | speech summary     | discussion analysis  | own opinions              | pros & cons        | prioritisation |
|---|--------------------|----------------------|---------------------------|--------------------|----------------|
| 0 | poor               | almost no            | too few                   | irrelevant         | no             |
| 1 | too short/long     | too short/long       | some                      | partially relevant | almost no      |
| 2 | informative, apt   | relevant parts       | many                      | mostly adequate    | some           |
| 3 | brief but accurate | accurate, conclusive | + improvement suggestions | fully adequate     | good           |

0 \_\_\_\_\_ concise and correct or  
no questions asked

-1 \_\_\_\_\_ some incorrect,  
inconclusive or too long

-2 \_\_\_\_\_ deeply incorrect or show  
deep misconceptions

NOTES:



# SCORESHEET

## REPORTER

Start from 1 and add/subtract

$$1 + \boxed{12} + \boxed{2.5} - \boxed{0} = \boxed{5}$$

stage: 1

fight (round no.): 1

room: C

problem no.: 16

Juror's name: Feng Song

reporter: Xiao Yu  
Switzerland

opponent: Anna Condy  
USA

reviewer: Iwona Lin  
Russia

signature: Feng Song

## REPORT

|   | phenomenon explanation                          | theory/model                           | relevant experiments                | comparison between theory and experiment      | own contribution                          | task fulfilment              |
|---|---|--|-------------------------------------|---|---|------------------------------|
| 0 | almost no                                       | almost no                              | too few                             | no/ almost no                                 | others' data, incorrectly cited           | misunderstood                |
| 1 | some  | some                                   | some                                | some  | review of sources, cited                  | partly                       |
| 2 | fair  | fair                                   | fair                                | not well fitting                              | some own input                            | average                      |
| 3 | good  | good                                   | well performed, sufficient number   | deviations qualitatively analysed             | some interesting results                  | interesting solution         |
| 4 | detailed  | quite detailed, correct                | + results explained                 | + theory limits explained, conclusive         | considerable experimental or theoretical  | some aspects above average   |
| 5 | demonstrative                                   | detailed, complex, completely testable | + reproducible, convincing analysis | well fitting, deviations analysed, conclusive | considerable experimental and theoretical | greater extent than expected |
| 6 | deep and comprehensible, shows physical insight |  |                                     |   |   |                              |

## DISCUSSION WITH OPPONENT

|   | scientific contribution        | relevant arguments/responses         | efficiency                          |
|---|--------------------------------|--------------------------------------|-------------------------------------|
| 0 | almost no                      | too few                              | almost no, chaotic                  |
| 1 | only technical points cleared  | some                                 | avoided some questions              |
| 2 | some scientific points cleared | many                                 | cooperated well                     |
| 3 | interesting points discussed   | + data/theory convincingly supported | answered directly to most questions |
| 4 | brought in new physics         | proved deep understanding            | efficient, productive               |

## ANSWERS TO JURY, OPPONENT and REVIEWER'S QUESTIONS

- ☒ concise and correct or no questions asked  
☐ some incorrect, inconclusive or too long  
☐ deeply incorrect or show deep misconceptions

NOTES:

## OPPONENT

Start from 1 and add/subtract

$$1 + \boxed{1} + \boxed{2} + \boxed{1} - \boxed{0} = \boxed{5}$$

## QUESTIONS ASKED

- 0 — almost no, irrelevant  
 1 — some relevant, aimed at resolving some unclear points  
 2 — short allowing short answers, prioritized, all time used

## OPPOSITION (SPEECH)

|   | time used         | understanding of presentation | relevant topics addressed | correct own opinions expressed | prioritisation |
|---|-------------------|-------------------------------|---------------------------|--------------------------------|----------------|
| 0 | almost no         | almost nothing                | no or irrelevant          | almost no                      | no             |
| 1 | very little       | some main points              | few                       | some                           | almost no      |
| 2 | not all           | main points                   | some                      | to important topics            | some           |
| 3 | almost all        | all relevant points           | many                      | to most topics                 | reasonable     |
| 4 | all & efficiently | practically all points        | practically all           | + improvement suggestions      | very good      |

## DISCUSSION WITH REPORTER

|   | scientific contribution | relevance of topics | own opinions presented    | efficiency             | prioritisation |
|---|-------------------------|---------------------|---------------------------|------------------------|----------------|
| 0 | almost no               | irrelevant          | very little               | almost no              | no             |
| 1 | little                  | some                | some                      | to some extent         | almost no      |
| 2 | partial                 | average             | some correct              | leading or cooperative | some           |
| 3 | good                    | many                | many correct              | quite efficient        | reasonable     |
| 4 | new crucial point(s)    | almost all          | + improvement suggestions | very efficient         | very good      |

## ANSWERS TO JURY and REVIEWER'S QUESTIONS

- ☐ concise and correct or no questions asked  
☐ some incorrect, inconclusive or too long  
☐ deeply incorrect or show deep misconceptions

NOTES:

## REVIEWER

Start from 1 and add/subtract

$$1 + \boxed{2} + \boxed{1} + \boxed{2} - \boxed{0} = \boxed{6}$$

## QUESTIONS ASKED

- 0 — too few, mostly irrelevant  
 1 — some relevant, sufficient number, could clear things out  
 2 — most time used, many unclear points resolved, aimed at both rep. and opp.  
 3 — +short, apt and clear, well prioritized time managed efficiently

## REVIEW OF REPORT

|   | report summary & understanding | discussion analysis  | own opinions              | pros & cons        | prioritisation |
|---|--------------------------------|----------------------|---------------------------|--------------------|----------------|
| 0 | poor                           | almost no            | too few                   | irrelevant         | no             |
| 1 | partial                        | too short/long       | some                      | partially relevant | almost no      |
| 2 | good                           | relevant parts       | many                      | mostly adequate    | some           |
| 3 | detailed, complex              | accurate, conclusive | + improvement suggestions | fully adequate     | good           |

## REVIEW OF OPPOSITION

|   | speech summary     | discussion analysis  | own opinions              | pros & cons        | prioritisation |
|---|--------------------|----------------------|---------------------------|--------------------|----------------|
| 0 | poor               | almost no            | too few                   | irrelevant         | no             |
| 1 | too short/long     | too short/long       | some                      | partially relevant | almost no      |
| 2 | informative, apt   | relevant parts       | many                      | mostly adequate    | some           |
| 3 | brief but accurate | accurate, conclusive | + improvement suggestions | fully adequate     | good           |

## ANSWERS TO JURY QUESTIONS

- ☐ concise and correct or no questions asked  
☐ some incorrect, inconclusive or too long  
☐ deeply incorrect or show deep misconceptions

NOTES:



Round: ..... 1 ..... Room: ..... C ..... Fight Assistants: Tan Jun Xiong, Joey Boey Jun Hui Teo Jian Ming



| Team                           | Stage 1                        |              |           | Stage 2          |                   |               | Stage 3                |             |             | Stage 4 |     |     |
|--------------------------------|--------------------------------|--------------|-----------|------------------|-------------------|---------------|------------------------|-------------|-------------|---------|-----|-----|
|                                | Switzerland                    | USA          | Russia    | USA              | Russia            | Switzerland   | Russia                 | Switzerland | USA         | Rep     | Opp | Rev |
| Juror                          | Rep                            | Opp          | Rev       | Rep              | Opp               | Rev           | Rep                    | Opp         | Rev         | Rep     | Opp | Rev |
| FENG SONG                      | 5                              | 5            | 6         | 5                | 6                 | 6             | 6                      | 5           | 7           |         |     |     |
| LESZEK GLADZUK                 | 5                              | 6            | 6         | 4                | 6                 | 5             | 6                      | 7           | 5           |         |     |     |
| TATYANA GONCALVES STANKEVICIUS | 6                              | 6            | 6         | 4                | 7                 | 5             | 6                      | 7           | 6           |         |     |     |
| PHILIP O'NEILL                 | 8                              | 5            | 5         | 4                | 8                 | 5             | 7                      | 8           | 7           |         |     |     |
| PAVLO VIKTOR                   | 6                              | 8            | 6         | 4                | 6                 | 7             | 7                      | 7           | 7           |         |     |     |
| Acting Team Member             |                                |              |           |                  |                   |               |                        |             |             |         |     |     |
|                                | Xiao Yu                        | Anna Cassidy | Ivan Ilin | Seojin Jung      | Alexsey Kudantsev | Florian Wirth | Polina Turishcheva     | Zara Vance  | Seojin Jung |         |     |     |
|                                |                                |              |           |                  |                   |               |                        |             |             |         |     |     |
| Rejected Problems              | None                           |              |           | None             |                   |               | None                   |             |             |         |     |     |
| Accepted Problem               | Q1b. Metronome Synchronization |              |           | Q2. Gallon Arkon |                   |               | Q5. Leidenschaft Staus |             |             |         |     |     |

Signature Fight Assistant:..... ..... Double-checked with Scoring Guidelines by second Fight Assistant (signature): ..... .....