

SCORESHEET

REPORTER Start from 1 and add/subtract

1 + 1.5 + 1 - 0.5 = 3

stage: 3

room: D

problem no.: 15

reporter: Bulgaria

opponent: Singapore

reviewer: UK

Juror's name: Michael

signature: *[Signature]*

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

NOTES:

almost no physical arguments

↑

no clear definitions, sensitivity often wrongly defined

"not able to determine the degree of cooling without knowing the cooling time" → presented methods of no practical use

OPONENT Start from 1 and add/subtract

1 + 1 + 2.5 + 1.5 - 0 = 6

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

NOTES:

OPPOSITION (SPEECH)

| time used | understanding of presentation | relevant topics addressed | correct own opinions expressed | prioritization |
|---------------------|-------------------------------|---------------------------|--------------------------------|----------------|
| 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

Opponent should have shown the low usefulness from the reporter's point of view

REVIEWER Start from 1 and add/subtract

1 + 1 + 1.5 + 1.5 - 0 = 5

| 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 |

NOTES:

No further improvements for the fight.

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

SCORESHEET

stage: **3** fight (round no.): **4** room: **D** problem no.: **15** Juror's name: **Andreas K (15 W)**
 reporter: **36** opponent: **SG** reviewer: **UC** signature: **Andreas K**

REPORTER Start from 1 and add/subtract
 1 + **1** + **1** - **1** = **2**

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

NOTES:

OPPONENT

Start from 1 and add/subtract
 1 + **1** + **4** + **4** - **0** = **10**

| QUESTIONS ASKED | | DISCUSSION WITH REPORTER | | | ANSWERS TO JURY and REVIEWER'S QUESTIONS | | |
|-----------------|--|--|--|------------------------------------|--|-------------------|--|
| 0 | almost no, irrelevant | scientific contribution almost no | relevance of topics irrelevant | own opinions presented very little | efficiency almost no | prioritisation no | concise and correct or no questions asked |
| 1 | some relevant, aimed at resolving some unclear points | understanding of presentation almost nothing | correct own opinions expressed almost no | some | to some extent | almost no | some incorrect, |
| 2 | short allowing short answers, prioritized, all time used | some main points | to important topics | average | leading or cooperative | some | inconclusive or too long |
| 3 | | all relevant points | to most topics | many | quite efficient | reasonable | deeply incorrect or show deep misconceptions |
| 4 | | practically all points | + improvement suggestions | new crucial point(s) | very efficient | very good | |

NOTES:

REVIEWER

Start from 1 and add/subtract
 1 + **2** + **2** + **1** - **0** = **6**

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

NOTES:

SCORESHEET

stage: 111
 reporter: BUL
 opponent: SIN
 room: P
 reviewer: UK
 problem no.: 763
 Juror's name: P. R. SOX
 signature: [Signature]

REPORTER
 1 + 1.5 + 4.5 - 7 = 2

| REPORT | phenomenon explanation | theory/model | relevant experiments | comparison between theory and experiment | own contribution | task fulfilment | DISCUSSION WITH OPPONENT | ANSWERS TO JURY, OPPONENT and REVIEWER'S QUESTIONS |
|--------|------------------------|--|-------------------------------------|--|--|------------------------------|--------------------------------------|--|
| 0 | almost no | almost no | too few | no/ almost no | others' data, incorrectly cited | partly | scientific contribution almost no | 0 |
| 1 | some | some | some | not well fitting | review of sources, cited | average | relevant arguments/responses to few | 1 |
| 2 | fair | fair | well performed, sufficient number | deviations | some input | interesting | some | 2 |
| 3 | good | good | + results explained | qualitatively analysed | some interesting results | some aspects | many | 3 |
| 4 | detailed | quite detailed, correct | errors analysed | + theory limits | considerable experimental or theoretical | above average | + data/theory convincingly supported | 4 |
| 5 | demonstrative | detailed, complex, completely testable | + reproducible, convincing analysis | explained, conclusive | and theoretical | greater extent than expected | proved deep understanding | 5 |
| 6 | shows physical insight | | | analysed, conclusive | | | | 6 |

NOTES: Dry → you were not listening to a over simplified to a incooperable

OPPONENT
 1 + 1 + 2.5 + 3.5 - 0 = 8

| QUESTIONS ASKED | time used | understanding of presentation | relevant topics addressed | correct own opinions expressed | prioritisation | DISCUSSION WITH REPORTER | ANSWERS TO JURY and REVIEWER'S QUESTIONS |
|-----------------|-------------|-------------------------------|---------------------------|--------------------------------|----------------|-----------------------------------|--|
| 0 | almost no | almost nothing | no or irrelevant | almost no | no | scientific contribution almost no | 0 |
| 1 | very little | some main points | few | some | almost no | little | 1 |
| 2 | not all | main points | some | to important topics | some | partial | 2 |
| 3 | almost all | all relevant points | many | to most topics | reasonable | good | 3 |
| 4 | efficiently | practically all points | practically all | + improvement suggestions | very good | new crucial point(s) | 4 |

NOTES: Start from 1 and add/subtract

REVIEWER
 1 + 2.5 + 2 + 1 = 6

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

NOTES: Building?

SCORESHEET

REPORTER
 1 + 1.2 + 15 - 0.5 = 3

stage: 3
 reporter: BULGARIA

fight (round no.): 4
 room: D
 opponent: SINGAPORE reviewer: UK

problem no.: 15

Juror's name: T. O'NEILL
 signature:

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

NOTES:

OPPONENT
 Start from 1 and add/subtract
 1 + 1 + 2.8 + 2.5 = 7

| QUESTIONS ASKED | time used | understanding of presentation | relevant topics addressed | correct own opinions expressed | prioritisation | DISCUSSION WITH REPORTER | ANSWERS TO JURY and REVIEWER'S QUESTIONS |
|-----------------|-------------|-------------------------------|---------------------------|--------------------------------|----------------|--|--|
| 0 | almost no | almost nothing | no or irrelevant | almost no | no | scientific contribution of topics almost no | 0 |
| 1 | very little | some main points | few | some | almost no | efficiency almost no | 0 |
| 2 | not all | main points | some | to important topics | some | own opinions presented very little | -1 |
| 3 | almost all | all relevant points | many | to most topics | reasonable | relevance average, some correct leading or cooperative | -1 |
| 4 | efficiently | practically all points | practically all | + improvement suggestions | very good | many correct improvement suggestions | -2 |

NOTES:

REVIEWER
 Start from 1 and add/subtract
 1 + 2 + 24 + 23 = 8

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

NOTES:

SCORESHEET

stage: 3

reporter: BG

room: K

reviewer: OK

problem no.: 15

signature: Fey

fight (round no.): 4

opponent: SG

Juror's name: Fey

score: 500

Start from 1 and add/subtract

1 + 2 + 1 - 0 = 4

| REPORT | | DISCUSSION WITH OPPONENT | | DISCUSSION WITH REPORTER | | ANSWERS TO JURY, OPPONENT and REVIEWER'S QUESTIONS | |
|--------|--|---|--|--------------------------------------|-------------------------------|--|--|
| 0 | phenomenon explanation almost no | comparison between theory and experiment X no/almost no | own contribution others' data, incorrectly cited | scientific contribution almost no | relevance of topics almost no | efficiency almost no, chaotic | concise and correct or no questions asked |
| 1 | some | some | review of sources, cited | only technical points cleared | some | avoided some questions | some incorrect, |
| 2 | fair | not well fitting deviations | some own input | some scientific points cleared | to some extent | cooperated well | inconclusive or too long |
| 3 | good | qualitatively analysed + theory limits | some interesting results | interesting points discussed | leading or cooperative | answered directly to most questions | deeply incorrect or show deep misconceptions |
| 4 | detailed | explained, conclusive | considerable experimental or theoretical | + data/theory convincingly supported | quite efficient | efficient, | |
| 5 | demonstrative | well fitting, deviations analysed, conclusive | considerable experimental and theoretical | brought in new physics | very efficient | productive | |
| 6 | deep and comprehensive, shows physical insight | completely testable | | | | | |

NOTES:

OPPONENT

Start from 1 and add/subtract

1 + 2 + 3 + 2 - 1 = 7

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

NOTES:

REVIEWER

Start from 1 and add/subtract

1 + 2 + 2 + 0 = 7

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

NOTES:

SCORESHEET

REPORTER
 1 + 1.5 + 1.5 = 4
 Start from 1 and add/subtract

stage: 2
 fight (round no.): 4
 reporter: UK

room: D
 opponent: BULGARIA
 reviewer: SINGAPORE

problem no.: 4

Juror's name: T. PRABU
 signature:

| REPORT | phenomenon explanation | theory/model | relevant experiments | comparison between theory and experiment | own contribution | task fulfillment | DISCUSSION WITH OPPONENT | efficiency | ANSWERS TO JURY, OPPONENT and REVIEWER'S QUESTIONS |
|--------|---|--|--------------------------------------|---|---|------------------------------|--------------------------------------|-------------------------------------|--|
| 0 | almost no explanation | almost no theory | too few experiments | no/ almost no comparison | others' data, incorrectly cited | misunderstood | scientific contribution almost no | almost no, chaotic | 0 |
| 1 | some explanation | some theory | some experiments | some comparison | review of sources, cited | partly average | arguments/responses too few | avoided some | no questions asked |
| 2 | fair explanation | fair theory | fair experiments | not well fitting | some own input | average | many | cooperated well | some incorrect, |
| 3 | good explanation | good theory | well performed, sufficient number | deviations qualitatively analysed | some interesting results | interesting solution | + data/theory convincingly supported | answered directly to most questions | inconclusive or too long |
| 4 | detailed, demonstrative | quite detailed, correct | + results explained, errors analysed | + theory limits explained, conclusive | considerable experimental or theoretical | some aspects above average | proved deep understanding | efficient, productive | deeply incorrect or show deep misconceptions |
| 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
 1 + 1 + 1.8 + 1.8 = 6
 Start from 1 and add/subtract

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

NOTES:

REVIEWER
 1 + 2.5 + 2 + 2.5 = 8
 Start from 1 and add/subtract

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

NOTES:

SCORESHEET

REPORTER Start from 1 and add/subtract
 1 + $3.5 + 2 - 0.5 = 6$

stage: 2 fight (round no.): 4
 reporter: UK opponent: BG

room: D reviewer: SG

problem no.: 4

Juror's name: Andrew Kershan
 signature: *[Signature]*

| REPORT | | DISCUSSION WITH OPPONENT | | DISCUSSION WITH REPORTER | | ANSWERS TO JURY, OPPONENT and REVIEWER'S QUESTIONS | |
|--------|--|--|--|--------------------------------|--------------------------------------|--|--|
| 0 | phenomenon explanation almost no | comparison between theory and experiment no/ almost no | own contribution others' data, incorrectly cited | task fulfillment misunderstood | scientific contribution almost no | relevant arguments/responses too few | efficiency almost no, chaotic |
| 1 | some | some | review of sources, cited | partly | only technical | some | no questions asked |
| 2 | fair | not well fitting | some own input | average | points cleared | many | some incorrect, |
| 3 | good | qualitatively analysed | some interesting results | interesting solutions | some scientific points cleared | many | inconclusive or too long |
| 4 | detailed | + theory limits explained, conclusive | considerable experimental or theoretical | some aspects above average | + data/theory convincingly supported | many | deeply incorrect or show deep misconceptions |
| 5 | demonstrative | well fitting, conclusive | considerable experimental and theoretical | greater extent than expected | proved deep understanding | many | |
| 6 | shows physical insight (completely testable) | analysed, conclusive | | | | many | |

NOTES:

OPPONENT Start from 1 and add/subtract
 1 + $1 + 2 + 1 - 0 = 5$

| QUESTIONS ASKED | | DISCUSSION WITH REPORTER | | DISCUSSION WITH OPPONENT | | ANSWERS TO JURY and REVIEWER'S QUESTIONS | |
|-----------------|--|--------------------------|-----------------------------------|--------------------------------------|----------------------|--|--|
| 0 | almost no, irrelevant | time used almost no | scientific contribution almost no | relevant arguments/responses too few | efficiency almost no | efficiency almost no | concise and correct or no questions asked |
| 1 | some relevant, aimed at resolving some unclear points | very little | irrelevant | some | almost no | almost no | some incorrect, |
| 2 | short allowing short answers, prioritized, all time used | not all | some | points cleared | some | some | inconclusive or too long |
| 3 | | efficiently | to important topics | points cleared | some correct | some | deeply incorrect or show deep misconceptions |
| 4 | | efficiently | + improvement suggestions | points cleared | many correct | some | |

NOTES:

REVIEWER Start from 1 and add/subtract
 1 + $3 + 2.5 + 0.5 - 0.5 = 6$

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

NOTES:

SCORESHEET

REPORTER: 3 + 2 - 0 = 6

stage: 2 fight (round no.): 4

room: D

problem no.: 4

Juror's name: Feng Song

1 + 3 + 2 - 0 = 6

reporter: UK

reviewer: SG

signature: Feng Song

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

NOTES:

OPPONENT

Start from 1 and add/subtract

1 + 1 + 2 + 2 - 0 = 6

QUESTIONS ASKED

- 0 almost no, irrelevant
- 1 some relevant, aimed at resolving
- 2 short allowing short answers, prioritized, all time used
- 3 all & efficiently
- 4 practically all points

NOTES:

OPPOSITION (SPEECH)

| time used | understanding of presentation | relevant topics addressed | correct own opinions expressed | prioritisation |
|-----------|-------------------------------|---------------------------|--------------------------------|----------------|
| 0 | almost no | no or irrelevant | almost no | no |
| 1 | very little | few | some | almost no |
| 2 | not all | some | to important topics | some |
| 3 | almost all | many | to most topics | reasonable |
| 4 | efficiently | practically all | + improvement suggestions | very good |

DISCUSSION WITH REPORTER

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

REVIEWER

Start from 1 and add/subtract

1 + 2 + 2 + 2 - 0 = 8

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

NOTES:

REVIEW OF REPORT

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

REVIEW OF OPPOSITION

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

SCORESHEET

Juror's name: PLIESOT
signature: [Signature]

room: D problem no.: 214
reviewer: SIC

fight (round no.): IV opponent: BUL

stage: II reporter: UK

1 + 2 + 7 - 7 = 3

| REPORT | | DISCUSSION WITH OPPONENT | | ANSWERS TO JURY, OPPONENT and REVIEWER'S QUESTIONS | |
|--------|---|-----------------------------------|--------------------------------------|--|--|
| 0 | phenomenon explanation almost no | scientific contribution almost no | relevant arguments/responses too few | efficiency almost no, chaotic | 0 |
| 1 | some | only technical points cleared | some | avoided some questions | no questions asked |
| 2 | fair | some scientific points cleared | many | cooperated well | some incorrect, |
| 3 | good | interesting points discussed | + data/theory convincingly supported | answered directly to most questions | inconclusive or too long |
| 4 | quite detailed, correct | brought in new physics | proved deep understanding | efficient, productive | deeply incorrect or show deep misconceptions |
| 5 | demonstrative | | | | |
| 6 | deep and comprehensible, shows physical insight | | | | |
| | (completely testable) | | | | |

NOTES:

OPONENT Start from 1 and add/subtract
1 + 7 + 10 + 0.8 - 4 = 13.8

| QUESTIONS ASKED | | DISCUSSION WITH REPORTER | | ANSWERS TO JURY and REVIEWER'S QUESTIONS | |
|-----------------|--|--------------------------------|------------------------------------|--|--|
| 0 | almost no, irrelevant | scientific contribution little | own opinions presented very little | efficiency almost no | 0 |
| 1 | some relevant, aimed at resolving some unclear points | irrelevant same | some | to some extent | questions asked |
| 2 | short allowing short answers, prioritized, all time used | average | some correct | leading or cooperative | some incorrect, |
| 3 | | good | many correct | quite efficient | inconclusive or too long |
| 4 | | new crucial point(s) | + improvement suggestions | very efficient | deeply incorrect or show deep misconceptions |

NOTES:

too dense slides

REVIEWER Start from 1 and add/subtract
1 + 3 + 3 + 0.5 - 7 = 0

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

NOTES:

SCORESHEET

REPORTER Start from 1 and add/subtract

1 + 1.5 + 2 + 1.5 - 1 = 3

stage: 2 fight (round no.): 4
 reporter: UK opponent: Bulgaria

room: D problem no.: 64
 reviewer: Singapore

Juror's name: Michael Skelle
 signature: *[Signature]*

| REPORT | phenomenon explanation | theory/model | relevant experiments | comparison between theory and experiment | own contribution | task fulfillment |
|--------|---|--|--|---|---|------------------------------|
| 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 | some interesting results | interesting solution |
| 4 | detailed | quite detailed, correct | + results explained | qualitatively analysed | considerable experimental or theoretical | some aspects |
| 5 | deep and comprehensible, shows physical insight | detailed, complex, completely testable | errors analysed, + reproducible, convincing analysis | + theory limits explained, conclusive well fitting, deviations analysed, conclusive | considerable experimental and theoretical | above average |
| 6 | | | | | | greater extent than expected |

NOTES:
 ↑ not explained, only in discussion "properties..."
 ↑ only qualitative comparison
 "some magnetic components added"

OPPONENT Start from 1 and add/subtract

1 + 0.5 + 2 + 1.5 - 0 = 5

| QUESTIONS ASKED | 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 + improvement suggestions | reasonable |
| 4 | all & efficiently | practically all points | practically all | | very good |

NOTES:
 able to clarify many things, but no physical discussion.
 some wrong
 but vague: "should be done differently"

REVIEWER Start from 1 and add/subtract

1 + 2 + 2 + 1 - 0 = 6

| QUESTIONS ASKED | report summary & understanding | discussion analysis | own opinions | pros & cons | prioritisation |
|-----------------|---|----------------------|---------------------------|--------------------|----------------|
| 0 | too few, mostly irrelevant | almost no | too few | irrelevant | no |
| 1 | some relevant, sufficient number, could clear things out | too short/long | some | partially relevant | almost no |
| 2 | most time used, many unclear points resolved, aimed at both rep. and opp. | relevant parts | many | adequately | some |
| 3 | +short, apt and clear, well prioritized time managed efficiently | accurate, conclusive | + improvement suggestions | fully adequate | good |

NOTES:
 not able to fill physical "holes" left from reporter and opponent.
 none?
 none?

| DISCUSSION WITH OPPONENT | scientific contribution | relevant arguments/responses | efficiency |
|--------------------------|-------------------------------|--------------------------------------|-------------------------------------|
| 0 | almost no | top few | almost no, chaotic |
| 1 | only technical points cleared | some | avoided some questions |
| 2 | 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 |

| 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 + improvement suggestions | quite efficient | reasonable |
| 4 | new crucial point(s) | almost all | | very efficient | very good |

| ANSWERS TO JURY and REVIEWER'S QUESTIONS | concise and correct or no questions asked |
|--|--|
| 0 | no |
| 1 | some incorrect, inconclusive or too long |
| 2 | deeply incorrect or show deep misconceptions |

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

SCORESHEET

REPORTER
 1 + 5 + 3 - 0, 2 = 8
 Start from 1 and add/subtract

stage: 1
 fight (round no.): 4
 reporter: SINGAPORE
 opponent: UK

room: D
 reviewer: SULTAN
 problem no.: 13

Juror's name: T. O'PATRICK
 signature:

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

NOTES:

OPPONENT
 1 + 1, 2 + 2 + 1, 2 - = 5
 Start from 1 and add/subtract

| QUESTIONS ASKED | time used | understanding of presentation | relevant topics addressed | correct own opinions expressed | prioritisation | DISCUSSION WITH REPORTER | ANSWERS TO JURY and REVIEWER'S QUESTIONS |
|-----------------|-------------|-------------------------------|---------------------------|--------------------------------|----------------|--|--|
| 0 | almost no | almost nothing | no or irrelevant | almost no | no | scientific contribution almost no | 0 |
| 1 | very little | some main points | few | some | almost no | relevance of topics irrelevant | 1 |
| 2 | not all | main points | some | to important topics | some | own opinions presented very little | 2 |
| 3 | almost all | all relevant points | many | to most topics | reasonable | some correct | 3 |
| 4 | efficiently | practically all points | practically all | + improvement suggestions | very good | many correct + improvement suggestions | 4 |

NOTES:

REVIEWER
 1 + 1 + 1, 2 + 1, 2 - = 4
 Start from 1 and add/subtract

| QUESTIONS ASKED | report summary & understanding | discussion analysis | own opinions | pros & cons | prioritisation | REVIEW OF OPPOSITION | ANSWERS TO JURY QUESTIONS |
|-----------------|--------------------------------|----------------------|---------------------------|--------------------|----------------|---------------------------------|---------------------------|
| 0 | poor | almost no | too few | irrelevant | no | speech summary poor | 0 |
| 1 | partly | top short/long | some | partially relevant | almost no | discussion analysis almost no | 1 |
| 2 | good | relevant parts | many | mostly adequate | some | top short/long too short/long | 2 |
| 3 | detailed, complex | accurate, conclusive | + improvement suggestions | fully adequate | good | informative, apt relevant parts | 3 |

NOTES:

SCORESHEET

stage: () fight (round no.): IV room: P problem no.: 13
 reporter: SIM opponent: UK reviewer: BUL juror's name: PLASCIA
 signature:

REPORTER Start from 1 and add/subtract
 1 + 5.5 + 3 - 0 = 9

| REPORT | phenomenon explanation | theory/model | relevant experiments | comparison between theory and experiment | own contribution | task fulfillment |
|--------|---|--|-------------------------------------|---|---|------------------------------|
| 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 | qualitatively analysed | some interesting results | interesting |
| 4 | detailed, demonstrative | quite detailed, correct | + results explained | + theory limits | considerable experimental or theoretical | some aspects above average |
| 5 | deep and comprehensible, shows physical insight | detailed, complex, (completely testable) | + reproducible, convincing analysis | explained, well fitting, analysed, inconclusive | 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 | some | avoided some questions |
| 2 | 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 and 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

| 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

OPPONENT Start from 1 and add/subtract
 1 + 1 + 2 + 2 - 0 = 6

| QUESTIONS ASKED | 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 + improvement suggestions | reasonable |
| 4 | efficiently | practically all points | practically all | | very good |

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

REVIEWER Start from 1 and add/subtract
 1 + 2 + 1 + 1 - 0 = 5

| QUESTIONS ASKED | 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 |

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

REVIEW OF OPPOSITION
 0 speech summary poor
 1 too short/long too short/long
 2 informative, apt relevant parts
 3 brief but accurate, conclusive

NOTES:
 too dense

SCORESHEET

REPORTER Start from 1 and add/subtract

1 + $\boxed{5}$ + $\boxed{35}$ - $\boxed{0}$ = $\boxed{9}$

stage: $\boxed{1}$

fight (round no.): $\boxed{4}$

room: \boxed{D}

problem no.: $\boxed{13}$

Juror's name: *Michael*

signature: *Stek*

opponent: *Singapore* reviewer: *Bulgaria*

| REPORT | | DISCUSSION WITH OPPONENT | | DISCUSSION WITH REPORTER | | ANSWERS TO JURY, OPPONENT and REVIEWER'S QUESTIONS | |
|--------|---|--|-------------------------------------|---|--|--|--|
| 0 | phenomenon explanation almost no | theory/model almost no | relevant experiments too few | comparison between theory and experiment no/almost no | own contribution others' data, incorrectly cited | task fulfillment misunderstood | efficiency almost no, chaotic questions |
| 1 | some | some | some | some | review of sources, cited | partly | no questions asked |
| 2 | fair | fair | fair | not well fitting, deviations | some own input | average | some incorrect, |
| 3 | good | good | well performed, sufficient number | qualitatively analysed + theory limits | some interesting results | interesting solution | inconclusive or too long |
| 4 | detailed, demonstrative | quite detailed, correct | results explained errors analysed | explained, conclusive | considerable experimental or theoretical | some aspects above average | deeply incorrect or show deep misconceptions |
| 5 | deep and comprehensible, shows physical insight | detailed, complex, completely testable | + reproducible, convincing analysis | all fitting, deviations analysed, conclusive | Considerable experimental and theoretical | greater extent than expected | |

↑ second theory $\frac{1}{2}$ ↑ various parameters

NOTES:

OPPONENT Start from 1 and add/subtract

1 + $\boxed{0.5}$ + $\boxed{2}$ - $\boxed{0}$ = $\boxed{6}$

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

NOTES:

↑ 04:00 min for filling height

↑ often not clarified

REVIEWER Start from 1 and add/subtract

1 + $\boxed{1}$ + $\boxed{2}$ + $\boxed{15}$ - $\boxed{0}$ = $\boxed{6}$

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

NOTES:

SCORESHEET

stage: 1 fight (round no.): 4

reporter: SG opponent: UK

room: D

reviewer: BULGARIA

problem no.: 13

Juror's name: Feng Song
signature: Feng Song

REPORTER Start from 1 and add/subtract

1 + 3.5 + 2.5 - 0.5 = 8

| REPORT | | DISCUSSION WITH OPPONENT | | DISCUSSION WITH REPORTER | | ANSWERS TO JURY, OPPONENT and REVIEWER'S QUESTIONS | |
|--------|---|--|--|-----------------------------------|-------------------------------|--|---|
| 0 | phenomenon explanation almost no | comparison between theory and experiment no/ almost no | own contribution others' data, incorrectly cited | scientific contribution almost no | relevance of topics almost no | efficiency almost no, chaotic questions | 0 |
| 1 | some | some | review of sources, cited | little | irrelevant | avoided some questions | 1 |
| 2 | fair | not well fitting deviations | some own input | partial | some | cooperated well | 2 |
| 3 | good | qualitatively analysed + theory limits | some interesting results | good | to some extent | answered directly | 3 |
| 4 | detailed, correct | explained, conclusive | considerable experimental or theoretical | new crucial point(s) | leading or cooperative | most questions efficient, productive | 4 |
| 5 | demonstrative | well fitting, deviations analysed, conclusive | considerable experimental and theoretical | almost all | quite efficient | | 5 |
| 6 | deep and comprehensible, shows physical insight | | | | very efficient | | 6 |

NOTES:

OPPONENT Start from 1 and add/subtract

1 + 1.5 + 2.5 + 0 = 7

| QUESTIONS ASKED | | DISCUSSION WITH REPORTER | | DISCUSSION WITH OPPONENT | | ANSWERS TO JURY and REVIEWER'S QUESTIONS | |
|-----------------|--|--------------------------|-----------------------------------|-------------------------------|------------------------------------|--|---|
| 0 | almost no, irrelevant | time used almost no | scientific contribution almost no | relevance of topics almost no | own opinions presented very little | efficiency almost no | 0 |
| 1 | some relevant, aimed at resolving some unclear points | very little | little | irrelevant | some | to some extent | 1 |
| 2 | short allowing short answers, prioritized, all time used | not all | partial | some | to some extent | leading or cooperative | 2 |
| 3 | | all relevant points | good | many | many correct | reasonable | 3 |
| 4 | | practically all points | new crucial point(s) | almost all | + improvement suggestions | very efficient | 4 |

NOTES:

REVIEWER Start from 1 and add/subtract

1 + 1.0 + 2 + 0 = 6

| QUESTIONS ASKED | | DISCUSSION WITH REPORTER | | DISCUSSION WITH OPPONENT | | ANSWERS TO JURY and REVIEWER'S QUESTIONS | |
|-----------------|---|-------------------------------------|----------------------|-------------------------------|---------------------------|--|---|
| 0 | too few, mostly irrelevant | report summary & understanding poor | speech summary poor | discussion analysis almost no | own opinions too few | pros & cons irrelevant | 0 |
| 1 | some relevant, sufficient number, could clear things out | partial | too short/long | too short/long | some | partially relevant | 1 |
| 2 | most time used, many unclear points resolved, aimed at both rep. and opp. | good | relevant parts | informative, apt | many | mostly adequate | 2 |
| 3 | +short, apt and clear, well prioritized time managed efficiently | detailed, complex | accurate, conclusive | brief but accurate | + improvement suggestions | adequate | 3 |

NOTES:

SCORESHEET

REPORTER Start from 1 and add/subtract

1 + 5 + 3 - 1 = 6

stage: 4
reporter: SG
opponent: UK

room: D
reviewer: SG

problem no.: 13

Juror's name: Andrew Kershby
signature: *[Signature]*

| REPORT | phenomenon explanation | theory/model | relevant experiments | comparison between theory and experiment | own contribution | task fulfillment |
|--------|--|--|--------------------------------------|---|---|------------------------------|
| 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, demonstrative | quite detailed, correct | + results explained, errors analysed | + theory limits explained, comprehensive | considerable experimental or theoretical | some aspects above average |
| 6 | deep and comprehensive, shows physical insight | detailed, complex, completely testable | + reproducible, convincing analysis | well fitting, deviations analysed, conclusive | considerable experimental and theoretical | greater extent than expected |

NOTES:

OPONENT Start from 1 and add/subtract

1 + 1 + 4 + 3 - 0 = 9

| QUESTIONS ASKED | 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 | efficiently | practically all points | practically all | + improvement suggestions | very good |

NOTES:

REVIEWER Start from 1 and add/subtract

1 + 2 + 2 + 1 - 0 = 6

| QUESTIONS ASKED | report summary & understanding | discussion analysis | own opinions | pros & cons | prioritisation |
|-----------------|---|--------------------------------|--------------|--------------------|----------------|
| 0 | too few, mostly irrelevant | almost no | too few | irrelevant | no |
| 1 | some relevant, sufficient number, could clear things out | almost no | too few | partially relevant | almost no |
| 2 | most time used, many unclear points resolved, aimed at both rep. and opp. | too short/long | some | mostly adequate | some |
| 3 | +short, apt and clear, well prioritized time managed efficiently | relevant, accurate, conclusive | many | fully adequate | good |

NOTES:

| 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 | points cleared | + data/theory | answered directly to most questions |
| 4 | interesting points discussed | convincingly supported | efficient, productive |
| | brought in new physics | proved deep understanding | |

| DISCUSSION WITH REPORTER | scientific contribution of topics | own opinions presented | efficiency | prioritisation |
|--------------------------|-----------------------------------|---------------------------|------------------------|----------------|
| 0 | almost no | very little | almost no | no |
| 1 | little | some | to some extent | almost no |
| 2 | partial | some correct | leading or cooperative | some |
| 3 | good | many correct | quite efficient | reasonable |
| 4 | new crucial points | + improvement suggestions | very efficient | very good |

| ANSWERS TO JURY and OPPONENT and REVIEWER'S QUESTIONS | concise and correct or no questions asked |
|---|--|
| 0 | no questions asked |
| -1 | some incorrect, inconclusive or too long |
| -2 | deeply incorrect or show deep misconceptions |

| ANSWERS TO JURY and REVIEWER'S QUESTIONS | concise and correct or no questions asked |
|--|--|
| 0 | no questions asked |
| -1 | some incorrect, inconclusive or too long |
| -2 | deeply incorrect or show deep misconceptions |

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

Round: 4 Room: D Fight Assistants: Desiree Lim



| Team | Stage 1 | | | Stage 2 | | | Stage 3 | | | Stage 4 | | |
|----------------------|-------------------------------------|---------------|---------------|---|---------------|---------------|--|------------------|-------------------|---------|-----|-----|
| | Singapore Rep | UK Opp | Bulgaria Rev | Bulgaria UK Rep | Bulgaria Opp | Singapore Rev | Bulgaria Rep | Singapore Opp | UK Rev | Rep | Opp | Rev |
| Andrei Klishev | 8 | 9 | 6 | 6 | 5 | 6 | 2 | 10 | 6 | | | |
| Feng Song | 8 | 7 | 6 | 6 | 6 | 8 | 3 | 7 | 7 | | | |
| Michael Steck | 9 | 6 | 6 | 3 | 5 | 6 | 3 | 6 | 5 | | | |
| (Head) Tomas Opatony | 8 | 5 | 4 | 4 | 6 | 8 | 4 | 7 | 8 | | | |
| Martin Plesch | 9 | 6 | 5 | 3 | 4 | 7 | 2 | 8 | 6 | | | |
| Acting Team Member | Markus Lendemann | Phillip Clark | Dimitar Tomov | Jakub Dranczewski | Dimitar Tomov | Wang Huijin | Ivan Dimitrov | Rachel Qing Pang | Jakub Dranczewski | | | |
| Rejected Problems | 2. Balloon Arkhorn 6. Fast chair | | | 11. Hair Hygrometer 3. Single lens Telescope 1. Invent Yourself | | | 3. Single lens telescope 16. Metronome synchronization 12. Torsion gyroscope | | | | | |
| Accepted Problem | 13. Resonating glass | | | 4. Magnetized Hills | | | 15. Boiled egg | | | | | |

Signature Fight Assistant: *Juleen* Double-checked with Scoring Guidelines by second Fight Assistant (signature): *W*