

**SCORESHEET**

stage: 2      reporter: RUSSIA

fight (round no.): 5      opponent: TAIPÉ (CH)

room: A      reviewer: SERBIA

problem no.: 16

Juror's name: *Kalina Ky*      signature: *[Signature]*

REPORTER      1 + 5 + 2 - 8 = 0

Start from 1 and add/subtract

NOTES:

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	not well performed, deviations	not well fitting	some own input	average
3	good	good	well performed, sufficient number	qualitatively analysed	some interesting results	interesting
4	detailed	quite detailed, correct	+ results explained	+ theory limits	explained, concise	solution
5	demonstrative	detailed, correct	errors analysed	+ theory limits	considerable experimental	above average
6	deep and comprehensible, shows physical insight	detailed, complex	convincing analysis	well fitting, deviations analysed, conclusive	considerable experimental and theoretical	greater extent than expected

NOTES:

DISCUSSION WITH OPONENT	relevant arguments/responses	efficiency
0	almost no, chaotic	avoided some questions
1	too few	some
2	many	cooperated well
3	+ data/theory	answered directly
4	convincingly supported	to most questions
5	proved deep understanding	efficient, productive

NOTES:

ANSWERS TO JURY, Oponent and REVIEWER'S QUESTIONS	conscience and correct or no questions asked	some incorrect, inconclusive or too long	deeply incorrect or show deep misconceptions
0	no	almost no	no
1	avoided some questions	cooperated well	no
2	some	many	no
3	well performed, deviations	qualitatively analysed	not well fitting
4	explained, concise	considerable experimental	not well fitting
5	convincing analysis	well fitting, deviations analysed, conclusive	not well fitting
6	deep and comprehensible, shows physical insight	detailed, complex	not well fitting

OPONENT      1 + 1 + 35 + 1 - 7 = 44

Start from 1 and add/subtract

NOTES:

QUESTIONS ASKED	almost no, irrelevant	some unclear points	some relevant, aimed at resolving	time used	understanding of relevant topics	correct own	priority
0	almost no	almost no	almost no	almost no	no or irrelevant	almost no	no
1	very little	some main points	some unclear points	some	few	little	almost no
2	not all	main points	short allowing short answers, prioritized, all time used	all relevant points	some	partial	some
3	almost all	all relevant points	efficiently	practically all points	many	good	many
4	all & efficiently	practically all points	practically all points	practically all	+ improvement	new crucial point(s)	almost all

NOTES:

DISCUSSION WITH REPORTER	efficiency	priority
0	almost no	no
1	to some extent	almost no
2	leading or cooperative	some
3	quite efficient	many correct
4	very efficient	many correct

NOTES:

ANSWERS TO JURY and REVIEWER'S QUESTIONS	conscience and correct or no questions asked	some incorrect, inconclusive or too long	deeply incorrect or show deep misconceptions
0	no	almost no	no
1	avoided some questions	cooperated well	no
2	some	many	no
3	well performed, deviations	qualitatively analysed	not well fitting
4	explained, concise	considerable experimental	not well fitting
5	convincing analysis	well fitting, deviations analysed, conclusive	not well fitting
6	deep and comprehensible, shows physical insight	detailed, complex	not well fitting

REVIEWER      1 + 15 + 35 + 25 - 8 = 67

Start from 1 and add/subtract

NOTES:

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

NOTES:

REVIEW OF REPORT	pros & cons	own opinions	discussion analysis	report summary & understanding
0	irrelevant	too few	almost no	almost no
1	partially relevant	some	some	some
2	mostly adequate	many	many	many
3	fully	many	many	many

NOTES:

REVIEW OF OPPOSITION	speech summary	discussion analysis	own opinions	pros & cons	priority
0	poor	almost no	too few	irrelevant	no
1	poor	almost no	too few	irrelevant	no
2	poor	almost no	too few	irrelevant	no
3	poor	almost no	too few	irrelevant	no

NOTES:

ANSWERS TO JURY	conscience and correct or no questions asked	some incorrect, inconclusive or too long	deeply incorrect or show deep misconceptions
0	no	almost no	no
1	avoided some questions	cooperated well	no
2	some	many	no
3	well performed, deviations	qualitatively analysed	not well fitting
4	explained, concise	considerable experimental	not well fitting
5	convincing analysis	well fitting, deviations analysed, conclusive	not well fitting
6	deep and comprehensible, shows physical insight	detailed, complex	not well fitting

**SCORESHEET**

stage: 2      reporter: Russia      opponent: Chinese Taipei      reviewer: Serbia      room: H      problem no.: 16

juror's name: Dina Izadi      signature: *[Signature]*

REPORT		DISCUSSION WITH OPPONENT				ANSWERS TO JURY	
0	phenomenon explanation	theory/model	relevant experiments	comparison between theory and experiment	task fulfillment	0	almost no
1	almost no	almost no	too few	no/almost no	others' data, incorrectly cited	1	almost no, chaotic
2	some	fair	some	some	review of sources, cited partly	2	avoided some questions
3	good	good	well performed, sufficient number	deviations	some interesting results	3	cooperated well
4	detailed	quite detailed, correct	+ results explained	qualitatively analysed	interesting points	4	answered directly
5	demonstrative	errors analysed	+ theory limits explained, conclusive	well fitting, deviations analysed, conclusive	discussed	5	to most questions
6	deep and comprehensive	completely testable, detailed, complex	+ reproducible, convincing analysis	considerable experimental and theoretical	brought in new physics	6	efficient, productive
	shows physical insight				proved deep understanding		

REPORTER      1 + 4.5 + 2.5 - 0 = 7

Start from 1 and add/subtract

NOTES:

QUESTIONS ASKED		DISCUSSION WITH REPORTER				ANSWERS TO JURY and REVIEWER'S QUESTIONS	
0	almost no, irrelevant	time used	understanding of presentation	relevant topics addressed	correct own options expressed	0	almost no
1	some unclear points	almost no	almost nothing	no or irrelevant	almost no	1	some unclear points
2	short allowing short answers, prioritized, all time used	very little	some main points	few	very little	2	some incorrect, questions asked
3	almost all	all relevant points	many	to most topics	average	3	some incorrect, inconclusive or too long
4	all & efficiently	practically all points	practically all	+ improvement	new crucial point(s)	4	deeply incorrect or show deep misconceptions

OPPONENT      1 + 1.5 + 2.25 + 2.25 - 0 = 7

Start from 1 and add/subtract

NOTES: opt. interred into the rep speech. most of the time and caused to disturb him.

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

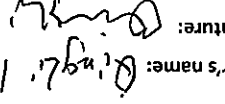
REVIEWER      1 + 1.5 + 0.75 + 0.75 - 0 = 4

Start from 1 and add/subtract

NOTES:

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

**SCORESHEET**

stage: 2  
 reporter: RUS51A  
 fight (round no.): 5  
 room: A  
 problem no.: 16  
 juror's name: Ringli, He  
 signature: 

REPORTER  
 Start from 1 and add/subtract  
 $1 + 3.5 + 3.5 - 0 = 8$

REPORT

NOTES:

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

DISCUSSION WITH OPPONENT

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

DISCUSSION WITH REPORTER

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

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

OPPONENT  
 Start from 1 and add/subtract  
 $1 + 1 + 3 - 2 = 7$

QUESTIONS ASKED

NOTES:

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

ANSWERS TO JURY and REVIEWER'S QUESTIONS

0 concise and correct or no questions asked  
 1 some relevant, aimed at resolving some unclear points  
 2 short allowing short answers, prioritized, all time used  
 3 almost all  
 4 all & efficiently

REVIEWER  
 Start from 1 and add/subtract  
 $1 + 2 + 1.5 + 1.5 - 0 = 6$

QUESTIONS ASKED

NOTES:

3	time managed efficiently	+short, apt and clear, well prioritized	detailed, complex	accurate, conclusive	+ improvement	good
2	most time used, many unclear points resolved, aimed at both rep. and opp.	good	relevant parts	relevant parts	many	some
1	clear things out	partial	too short/long	partially relevant	some	almost no
0	100 few, mostly irrelevant	poor	almost no	too few	too few	no
	report summary & understanding	discussion	own opinions	pros & cons	prioritisation	prioritisation

REVIEW OF REPORT

3	brief but accurate	conclusive, accurate, + improvements	fully	good
2	informative, apt	relevant parts	mostly adequate	some
1	too short/long	too short/long	partially relevant	almost no
0	poor	almost no	irrelevant	no
	speech	discussion	own opinions	pros & cons

REVIEW OF OPPOSITION

3	fully	adequate	conclusive, accurate, + improvements	adequate	good
2	mostly adequate	many	many	mostly adequate	some
1	partially relevant	some	some	partially relevant	almost no
0	irrelevant	too few	too few	irrelevant	no
	pros & cons	own opinions	pros & cons	prioritisation	prioritisation

ANSWERS TO JURY

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

NOTES:

**SCORESHEET**

stage: 8 reporter: Reviewer opponent: Ch. Tepper room: A problem no.: 14 juror's name: Katy Grady signature: [Signature]

fight (round no.): 2 reviewer: Server

REPORTER  
Start from 1 and add/subtract  
 $1 + 4.0 + 1.2 = 5.2$   
= 6

NOTES:

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

DISCUSSION WITH OPONENT

4	proved deep	understanding	productive
3	convincingly supported	+ data/theory	answered directly
2	points cleared	many	cooperated well
1	some scientific	some	avoided some
0	almost no	too few	almost no, chaotic

OPONENT and REVIEWER'S QUESTIONS

0	conscience and correct or no questions asked
1	some incorrect, questions asked
2	deeply incorrect or show deep misconceptions

OPONENT  
Start from 1 and add/subtract  
 $1 + 0.6 + 2.5 + 1.5 = 5.6$   
= 6

NOTES:

4	efficiently	practically all points	practically all	+ improvement	new crucial point(s)	very good
3	all & X	all relevant points	many	to most topics	good	reasonable
2	not all	some main points	some X	to important topics	partial	some
1	very little	almost no	few	some	little	almost no
0	almost no	almost nothing	no or irrelevant	almost no	almost no	no

DISCUSSION WITH REPORTER

4	very efficient	very good
3	quite efficient	good
2	leading or cooperative	average
1	to some extent	some
0	almost no	almost no

REPORTER'S QUESTIONS

0	conscience and correct or no questions asked
1	some incorrect, questions asked
2	deeply incorrect or show deep misconceptions

REVIEWER  
Start from 1 and add/subtract  
 $1 + 0.6 + 1.5 + 1.5 = 4.6$   
= 5

NOTES:

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

QUESTIONS ASKED

QUESTIONS ASKED

0	conscience and correct or no questions asked
1	some incorrect, questions asked
2	deeply incorrect or show deep misconceptions

**SCORESHEET**

stage: 2      reporter: *Russiz*      opponent: *Chirise Tupper*      reviewer: *Serba*

fight (round no.): 5      room: A      problem no.: 16

juror's name: *Kent Hoger*      signature: *Kent Hoger*

**REPORTER**  
 Start from 1 and add/subtract  
 1 + 1/2 + 3 - 1/2 = 8

**REPORT**

ANSWERS TO JURY, Oponent and REVIEWER'S QUESTIONS		DISCUSSION WITH OPONENT			
0	conscience and correct or no questions asked	0	almost no, chaotic	0	almost no
1	some incorrect, inconclusive or too long	1	avoided some questions cooperated well	1	only technical points cleared
2	deeply incorrect or show deep misconceptions	2	cooperated well	2	some scientific points cleared
3		3	answered directly	3	interesting points + date/theory
4		4	efficient, productive	4	brought in new physics
5		5		5	convincing supported
6		6		6	proved deep understanding

**NOTES:**

QUESTIONS ASKED	phenomenon explanation	relevant theory/model	comparison between theory and experiment	own contribution	task fulfillment
0	almost no	almost no	no/almost no	others' data, incorrectly cited	misunderstood
1	some	some	some	review of sources, cited	partly
2	fair	fair	well performed,	some own input	interesting
3	good	good	sufficient number	some interesting results	average
4	detailed	quite explained, + results explained	qualitatively analysed		interesting
5	dependantive	errors analysed	experiments conclusive	considerable experimental	some aspects
6	shows physical insight	complex, + reproducible, convincing analysis	well fitting, deviations analysed, conclusive	considerable experimental and theoretical	greater extent than expected

**OPONENT**  
 Start from 1 and add/subtract  
 1 + 1 + 3 + 2 - 0 = 7

**OPONENT**

ANSWERS TO JURY and REVIEWER'S QUESTIONS		DISCUSSION WITH REPORTER				OPPOSITION (SPEECH)					
0	conscience and correct or no questions asked	0	almost no	0	almost no	0	almost no	0	almost no	0	almost no
1	some incorrect, inconclusive or too long	1	to some extent	1	very little	1	some	1	few	1	some main points
2	deeply incorrect or show deep misconceptions	2	leading or cooperative	2	some	2	some correct	2	average	2	partial
3		3	quite efficient	3	many correct	3	many	3	many	3	good
4		4	very efficient	4	almost all suggestions	4	new crucial point(s)	4	practically all	4	practically all points

**NOTES:**

QUESTIONS ASKED	time used	understanding of presentation	relevant topics addressed	correct own opinion 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	very good

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

**REVIEWER**

ANSWERS TO JURY QUESTIONS		REVIEW OF OPPOSITION				REVIEW OF REPORT				QUESTIONS ASKED			
0	conscience and correct or no questions asked	0	no	0	almost no	0	poor	0	almost no	0	poor	0	too few, mostly irrelevant
1	some incorrect, inconclusive or too long	1	some	1	too short/long	1	poor	1	partially relevant	1	partial	1	clear things out
2	deeply incorrect or show deep misconceptions	2	some	2	too short/long	2	informative, apt	2	partially relevant	2	good	2	most time used, many unclear points
3		3	many	3	relevant parts	3	accurate, conclusive, + improvements	3	mostly adequate	3	detailed, complex, relevant parts	3	resolved, aimed at both rep. and opp.
4		4	many	4	many	4	many	4	many	4	many	4	+short, apt and clear, well prioritized
5		5	many	5	many	5	many	5	many	5	many	5	time managed efficiently

**NOTES:**



## SCORESHEET

stage: 1st  
 reporter: John  
 opponent: Eva  
 fight (round no.): 1  
 room: \_\_\_\_\_  
 problem no.: 6  
 reviewer: Oliver Impey  
 Juror's name: Ann Gray  
 signature: [Signature]

REPORTER  
 Start from 1 and add/subtract  
 $1 + 2.25 + 1.25 - 0.25 = 4$

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	well performed, sufficient number	well performed, deviations	deviations	some interesting results	interesting
4	detailed	+ results explained	+ results explained	+ theory limits explained, conclusive	considerable experimental	some aspects
5	demonstrative	correct	errors analysed	explains, conclusive	of theoretical	above average
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:

DISCUSSION WITH OPONENT	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	+ data/theory	answered directly
4	brought in new physics	proved deep understanding	efficient, productive

DISCUSSION WITH REPORTER	scientific relevance	own opinions	efficiency
0	almost no	irrelevant	almost no
1	little	some	to some extent
2	partial	average	some correct
3	good	many	many correct
4	new crucial points	almost all	very efficient

OPONENT  
 Start from 1 and add/subtract  
 $1 + 0.75 + 2.5 + 2.0 = 6$

REVIEWER  
 Start from 1 and add/subtract  
 $1 + 1.5 + 2.5 + 2 = 7$

REVIEW OF REPORT	report summary & understanding	discussion analysis	own opinions	pros & cons	priority
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	+ improvements	fully	good

REVIEW OF OPPOSITION	speech summary	discussion analysis	own opinions	pros & cons	priority
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	conclusive, accurate	+ improvements	fully	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

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:

## SCORESHEET

stage: 1 reporter: Serbia opponent: Russia fight (round no.): 5 room: A problem no.: 6

signature: [Signature] Juror's name: Kent Hoggan

REPORTER: 1 + 1 = 2 - 0 = 2

REPORT

NOTES:

0	phenomenon explained	theory/model	relevant experiments	comparison between theory and experiment	own contribution	task fulfillment
1	and/or no	almost no	too few	no/ almost no	others' data incorrectly cited	misunderstood
2	fair	some	some	not well fitting	review of sources, cited	part
3	good	good	well performed	deviations	some interesting results	interesting
4	detailed	quite detailed, correct	+ results explained	qualitatively analysed	interesting solution	points raised
5	demonstrative	correct	errors analysed	+ theory limits	considerable experimental	discussed interesting points
6	deep and comprehensive, shows physical insight	detailed, complex, completely testable	+ reproducible, convincing analysis	well fitting, deviations analysed, conclusive	considerable experimental and theoretical	brought in new physics

DISCUSSION WITH OPONENT

ANSWERS TO JURY, OPONENT and REVIEWER'S QUESTIONS

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

NOTES:

OPONENT: 1 + 1 = 2 - 0 = 2

OPONENT

NOTES:

0	almost no, irrelevant	time used	understanding of presentation	relevant topics addressed	correct own opinions expressed	priority
1	very little	almost no	some main points	no or irrelevant	almost no	no
2	not all	some main points	all relevant points	few	little	almost no
3	almost all	all relevant points	practically all points	many	average	some
4	efficiently	practically all points	practically all	+ improvement	many	many

DISCUSSION WITH REPORTER

ANSWERS TO JURY and REVIEWER'S QUESTIONS

0	conclude and correct or no questions asked	priority	efficiency
1	some incorrect, inconclusive or too long	almost no	to some extent
2	some incorrect, inconclusive or too long	some	leading or cooperative
3	deeply incorrect or show deep misconceptions	reasonable	quite efficient
4	very good	very efficient	suggestions

NOTES:

REVIEWER: 1 + 2 = 3 - 0 = 3

REVIEWER

NOTES:

0	too few, mostly irrelevant	report summary & understanding	discussion analysis	own opinions	pros & cons	priority
1	clear things out	poor	almost no	too few	irrelevant	no
2	resolved, aimed at both rep. and opp.	partial	too short/long	some	partially relevant	almost no
3	time managed efficiently	detailed, complex	relevant parts	many	mostly adequate	fully

DISCUSSION WITH OPPOSITION

ANSWERS TO JURY

0	conclude and correct or no questions asked	priority	speech summary	discussion analysis	own opinions	pros & cons
1	some incorrect, inconclusive or too long	almost no	too short/long	some	partially relevant	almost no
2	deeply incorrect or show deep misconceptions	informative, apt	relevant parts	many	mostly adequate	fully
3	good	accurate, concise, brief but	accurate, concise, + improvement	adequate	adequate	good

NOTES:

REVIEWER: 1 + 2 = 3 - 0 = 3



# SCORESHEET

stage: I  
 reporter: SERBIA  
 opponent: RUSSIA  
 room: A  
 problem no.: 6  
 juror's name: W. Lysky  
 signature: *[Signature]*

REPORTER  
 Start from 1 and add/subtract  
 $1 + 2 + 1.5 - \square = 4.5$

NOTES:

6	shows physical insight	detailed, complex, completely testable	convincing analysis	well fitting, deviations analysed, conclusive	considerable experimental and theoretical	greater extent than expected	4	brought in new physics	proved deep understanding	efficient, productive
5	demonstrative	correct	errors analysed	explained, conclusive	considerable experimental or theoretical	above average	3	discussed interesting points	+ data/theory convincingly supported	answered directly to most questions
4	detailed	quite detailed, correct	+ results explained	+ theory limits	considerable experimental	some aspects	2	points cleared	many	cooperated well
3	good	good	well performed, sufficient number	qualitatively analysed	deviations	not well fitting	1	some scientific points cleared	some	avoided some questions
2	some	fair	fair	not well fitting	review of sources, cited	some own input	0	only technical points cleared	top few	almost no, chaotic
1	almost no	almost no	too few	some	others' data, incorrectly cited	misunderstood	0	almost no contribution	relevant arguments/responses	efficiency
0	phenomenon explanation	theory/model	relevant experiments	comparison between theory and experiment	own contribution	task fulfillment	0	scientific contribution		

OPONENT

Start from 1 and add/subtract

$1 + 1 + 3 + 2.4 - \square = 8$

NOTES:

4	all & efficiently	practically all points	practically all	+ improvement	very good
3	almost all	all relevant points	many	to most topics	reasonable
2	not all	main points	some	to important topics	some
1	very little	some main points	few	some	almost no
0	almost no	almost nothing	no or irrelevant	almost no	no

QUESTIONS ASKED

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

DISCUSSION WITH REPORTER

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

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
- 3 -
- 4 -

REVIEWER

Start from 1 and add/subtract

$1 + 1.5 + 2.5 + 2.5 - \square = 7$

NOTES:

3	time managed efficiently	+short, apt and clear, well prioritized	resolved, aimed at both rep. and opp.	most time used, many unclear points	clear things out	some relevant, sufficient number, could	0	too few, mostly irrelevant
2	good	partial	too short/long	almost no	poor	report summary & understanding	0	poor
1	partially relevant	too short/long	almost no	too few	too few	discussion	1	poor
0	irrelevant	irrelevant	no	no	summary	speech	2	poor

QUESTIONS ASKED

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

REVIEW OF REPORT

3	detailed, complex	conclusive	+ improvement	suggestions	adequate	good
2	good	relevant parts	many	many	mostly adequate	some
1	partial	too short/long	some	partially relevant	partially relevant	almost no
0	poor	almost no	too few	too few	irrelevant	no

ANSWERS TO JURY

- 0 - concise and correct or no questions asked
- 1 - some incorrect, inconclusive or too long
- 2 - deeply incorrect or show deep misconceptions
- 3 -

REVIEW OF OPPOSITION

3	brief but accurate	conclusive	+ improvement	suggestions	adequate	good
2	informative, apt	relevant parts	many	many	mostly adequate	some
1	too short/long	too short/long	some	partially relevant	partially relevant	almost no
0	poor	almost no	too few	too few	irrelevant	no

QUESTIONS

- 0 - concise and correct or no questions asked
- 1 - some incorrect, inconclusive or too long
- 2 - deeply incorrect or show deep misconceptions
- 3 -

# SCORESHEET

stage: 1  
 fight (round no.): 5  
 opponent: RUSSIA  
 reporter: SERBIA  
 room: A  
 reviewer: CHINESE TAIPEI  
 problem no.: 6  
 Juror's name: Angli He  
 signature: Angli He

REPORTER  
 Start from 1 and add/subtract  
 $1 + 2.5 + 2.5 - 0 = 6$

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

NOTES:

ANSWERS TO JURY, OPPONENT and REVIEWER'S QUESTIONS	efficiency	relevant arguments/responses	scientific contribution	physics brought in new	proven deep understanding	productive, efficient, answered directly
0	almost no, chaotic	too few	almost no contribution	almost no only technical points cleared	some	avoided some questions
1	some	some	some scientific points cleared	some scientific points cleared	many	cooperated well
2	cooperated well	many	interesting points	interesting points	+ data/theory	answered directly
3	convincingly supported	convincingly supported	discussed	discussed	convincingly supported	to most questions
4	efficient, productive	proven deep understanding	brought in new physics	brought in new physics	proven deep understanding	efficient, productive

DISCUSSION WITH OPPONENT

OPPONENT

Start from 1 and add/subtract  
 $1 + 1 + 2.5 + 2.5 - 0 = 7$

DISCUSSION WITH REPORTER	scientific contribution	relevance of topics presented	own opinions	efficiency	prioritisation
0	almost no contribution	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 + improvements	very efficient	very good	very good

QUESTIONS ASKED	time used	understanding of relevant topics	correct own opinions expressed	prioritisation
0	almost no	almost nothing	almost no	no
1	very little	some main points	few	almost no
2	short allowing short answers, prioritized, all time used	some main points	to important topics	some
3	almost all	all relevant points	many	to most topics
4	all & efficiently	practically all points	practically all	+ improvements

NOTES:

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

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,	+ improvements	fully	good

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

NOTES:

REVIEWER  
 Start from 1 and add/subtract  
 $1 + 2 + 2 - 0 = 7$

ANSWERS TO JURY	conclude and correct or no questions asked	some incorrect, inconclusive or too long	deeply incorrect or show deep misconceptions
0	conclude and correct or no questions asked	some incorrect, inconclusive or too long	deeply incorrect or show deep misconceptions
1	conclude and correct or no questions asked	some incorrect, inconclusive or too long	deeply incorrect or show deep misconceptions
2	conclude and correct or no questions asked	some incorrect, inconclusive or too long	deeply incorrect or show deep misconceptions
3	conclude and correct or no questions asked	some incorrect, inconclusive or too long	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	briet but accurate,	conclusive,	+ improvements	fully	good

## SCORESHEET

reporter: Chen      stage: 5      fight (round no.): 3      opponent: Corbin      reviewer: A      room: A      problem no.: 13

Juror's name: David King      signature: [Signature]

1 + 4.0 = 6.0  
 + 1.5 - 0 = 6.0  
 Start from 1 and add/subtract

### REPORTER

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 qualitatively analysed	some interesting results	interesting
4	detailed	quite detailed, correct	+ results explained	+ theory limits explained, conclusive	considerable experimental or theoretical	some aspects above average
5	demonstrative	detailed, comprehensible, shows physical insight	+ reproducible, convincing analysis	well fitting, deviations analysed, conclusive	considerable experimental and theoretical	greater extent than expected
6	deep and comprehensive	completely testable	convincing analysis	convincing analysis	considerable experimental and theoretical	greater extent than expected

### NOTES:

ANSWERS TO JURY, OPPONENT and REVIEWER'S QUESTIONS  
 0 - concise and correct or no questions asked  
 1 - avoided some questions cooperated well  
 2 - almost no, chaotic  
 3 - avoided some questions cooperated well  
 4 - answered directly  
 5 - answered directly to most questions  
 6 - efficient, productive

### DISCUSSION WITH OPPONENT

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

### OPPONENT

1 + 2.5 = 2.5  
 + 2.5 - 0 = 5.0  
 Start from 1 and add/subtract

### QUESTIONS ASKED

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

time used	understanding of presentation	relevant topics addressed	correct own opinions expressed	priority
0	almost no	almost nothing	almost no	no
1	very little	some main points	few	almost no
2	not all	main points	some	some
3	almost all	all relevant points	many	to most topics
4	efficiently	practically all points	practically all	+ improvement suggestions

### OPPOSITION (SPEECH)

### DISCUSSION WITH REPORTER

scientific relevance	own opinions presented	efficiency	priority
0	almost no	almost no	no
1	irrelevant	very little	almost no
2	average	some	to some extent
3	many correct	quite efficient	reasonable
4	almost all	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:

1 + 1.9 = 1.9  
 + 1.5 - 0 = 3.4  
 Start from 1 and add/subtract

### REVIEWER

### 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
- 4 - time managed efficiently

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

### REVIEW OF OPPOSITION


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

### ANSWERS TO JURY

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

### NOTES:

## SCORESHEET

stage:  MAJORITY opponent:  fight (round no.): **5**  
 room: **A** reviewer: \_\_\_\_\_  
 problem no.: \_\_\_\_\_ juror's name: **W. King'sky!** signature: 

REPORT	phenomenon explanation	theory/model	experiments	relevant	comparison between theory and experiment	own contribution	task fulfillment
0	almost no	almost no	too few	no/almost no	others' data, incorrectly cited	misunderstood	0
1	some	some	fair	some	review of sources, cited	partly	1
2	fair	fair	well performed, sufficient number	not well fitting deviations	some own input	average	1
3	good	good	well performed, sufficient number	deviations	some interesting results	interesting	1
4	good	quite detailed, correct	+ results explained, errors analysed	+ theory limits explained, conclusive	considerable experimental or theoretical	interesting points	2
5	detailed	detailed, complex, completely testable	+ reproducible, convincing analysis	well fitting, deviations analysed, conclusive	considerable experimental and theoretical	points cleared	2
6	deep and comprehensible, shows physical insight	detailed, complex, completely testable	convincing analysis	well fitting, deviations analysed, conclusive	considerable experimental and theoretical	brought in new physics	4

DISCUSSION WITH OPONENT	relevant arguments/responses	scientific contribution	efficiency
0	too few	almost no	almost no, chaotic
1	some	only technical	avoided some questions
2	many	some scientific points cleared	cooperated well
3	+ data/theory	interesting points	answered directly
4	proven deep understanding	brought in new physics	efficient, productive

DISCUSSION WITH REPORTER	scientific relevance	own opinions	efficiency
0	contribution of topics	very little	no
1	irrelevant	some	almost no
2	average	some correct	leading or cooperative
3	good	many correct	quite efficient
4	new crucial point(s)	almost all suggestions	very efficient

REPORTER: 1 + 5 + 1 + 1 = 8

OPONENT: 1 + 1 + 1 = 3

QUESTIONS ASKED	report summary & understanding	discussion analysis	own opinions	pros & cons	prioritisation
0	too few, mostly irrelevant	almost no	too few	irrelevant	no
1	clear things out	almost no	too short/long	irrelevant	almost no
2	resolved, aimed at both rep. and opp.	relevant parts	many	mostly adequate	some
3	time managed efficiently	detailed, complex	accurate, suggestions	fully	good

QUESTIONS ASKED	report summary & understanding	discussion analysis	own opinions	pros & cons	prioritisation
0	almost no	almost no	too few	irrelevant	no
1	some unclear points	almost no	too short/long	irrelevant	almost no
2	most time used, many unclear points	relevant parts	many	mostly adequate	some
3	+short, apt and clear, well prioritized	detailed, complex	accurate, suggestions	fully	good

REVIEWER: 1 + 1 + 2 = 4

ANSWERS TO JURY: 0 - 2

NOTES:

**SCORESHEET**

stage: 3  
 reporter: Chinese Taipei  
 opponent: Serbia  
 fight (round no.): P5  
 room: A  
 problem no.: 13  
 reviewer: Russia  
 Juror's name: Dina Ilić  
 signature: *Dina Ilić*

REPORTER  
 Start from 1 and add/subtract  
 $1 + 0.5 + 1.5 - 0 = 5$

REPORT

NOTES:

6	shows physical insight	deep and comprehensive
5	detailed, complex, convincingly testable	detailed, comprehensive, demonstrates
4	correct	detailed, explains errors analysed
3	good	quite detailed, + results explained
2	fair	+ well performed, sufficient number of deviations explained
1	some	well fitting, deviations not well fitting
0	almost no	some
0	theory/model	almost no
0	relevant experiments	no/almost no
0	comparison between theory and experiment	others' data, incorrectly cited
0	own contribution	review of sources, cited
0	task fulfilment	average
0	scientific contribution	points cleared
0	relevant arguments/responses	only technical
0	efficiency	almost no
0		too few
0		some
0		many
0		cooperated well
0		avoided some questions
0		almost no, chaotic
0		conscience and correct or no questions asked
0		some incorrect,
0		inconclusive or too long
0		deeply incorrect or show deep misconceptions

DISCUSSION WITH OPONENT

DISCUSSION WITH REPORTER

OPONENT AND REVIEWER'S QUESTIONS

ANSWERS TO JURY

OPONENT  
 Start from 1 and add/subtract  
 $1 + 0.5 + 1.25 + 1 - 0 = 4$

QUESTIONS ASKED

NOTES:

0	almost no, irrelevant	time used
0	some relevant, aimed at resolving	almost no
1	short allowing short answers, prioritized, all time used	very little
2		not all
3		almost all
4		all relevant points
0	correct own	relevant topics
0	practically all	practically all
0	to most topics	many
0	to important topics	some
0	almost no	few
0	some	some
0	partial	average
0	many	many
0	many correct	many correct
0	quite efficient	reasonable
0	very efficient	very good
0	own opinions	scientific
0	relevance	contribution
0	of topics presented	contribution
0	almost no	almost no
0	very little	little
0	to some extent	some
0	leading or cooperative	some
0	some	some
0	reasonable	reasonable
0	new crucial	good
0	almost all	almost all
0	improvement	improvement
0	suggestions	suggestions
0	concise and correct or no questions asked	concise and correct or no questions asked
0	some incorrect,	some incorrect,
0	inconclusive or too long	inconclusive or too long
0	deeply incorrect or show deep misconceptions	deeply incorrect or show deep misconceptions

DISCUSSION WITH REPORTER

OPPOSITION (SPEECH)

REVIEWER'S QUESTIONS

ANSWERS TO JURY and

REVIEWER  
 Start from 1 and add/subtract  
 $1 + 1.5 + 0.25 + 0.25 - 0.75 = 7$

QUESTIONS ASKED

NOTES:

0	too few, mostly irrelevant	report summary & understanding
0	some relevant, sufficient number, could	report summary
1	clear things out	poor
1	most time used, many unclear points, resolved, aimed at both rep. and opp.	partial
2	+short, apt and clear, well prioritized	good
3	time managed efficiently	detailed, complex
0	correct own	relevant topics
0	practically all	practically all
0	to most topics	many
0	to important topics	some
0	almost no	few
0	some	some
0	partial	average
0	many	many
0	many correct	many correct
0	quite efficient	reasonable
0	very efficient	very good
0	own opinions	scientific
0	relevance	contribution
0	of topics presented	contribution
0	almost no	almost no
0	very little	little
0	to some extent	some
0	leading or cooperative	some
0	some	some
0	reasonable	reasonable
0	new crucial	good
0	almost all	almost all
0	improvement	improvement
0	suggestions	suggestions
0	concise and correct or no questions asked	concise and correct or no questions asked
0	some incorrect,	some incorrect,
0	inconclusive or too long	inconclusive or too long
0	deeply incorrect or show deep misconceptions	deeply incorrect or show deep misconceptions

REVIEW OF REPORT

REVIEW OF OPPOSITION

ANSWERS TO JURY

NOTES: Time management

**SCORESHEET**

stage: 3      fight (round no.): 5      room: A      problem no.: 13

reporter: TABET      opponent: STERBA      reviewer: RUSSIA

Juror's name: King, He      signature: King, He

REPORTER      1 + 3.0 + 2.5 - 0 = 6

Start from 1 and add/subtract

REPORT

NOTES:

0	phenomenon explanation	theory/model	almost no	some	theory and experiment	no/almost no	too few	relevant experiments
1	some	fair	almost no	some	comparison between	no/almost no	too few	relevant experiments
2	fair	good	almost no	some	own contribution	others' data, incorrectly cited	misunderstood	relevant experiments
3	good	well performed, sufficient number	almost no	some	task fulfillment	no/almost no	misunderstood	relevant experiments
4	detailed	well performed, sufficient number	almost no	some	own contribution	others' data, incorrectly cited	misunderstood	relevant experiments
5	demonstrative	quite detailed, errors analysed	almost no	some	own contribution	others' data, incorrectly cited	misunderstood	relevant experiments
6	deep and comprehensible	detailed, correct, completely testable	almost no	some	own contribution	others' data, incorrectly cited	misunderstood	relevant experiments

DISCUSSION WITH OPONENT

0	almost no, chaotic	avoided some questions	too few	almost no	scientific contribution	almost no	too few	relevant arguments/responses
1	concealed well	cooperated well	too few	almost no	scientific contribution	almost no	too few	relevant arguments/responses
2	cooperated well	cooperated well	too few	almost no	scientific contribution	almost no	too few	relevant arguments/responses
3	cooperated well	cooperated well	too few	almost no	scientific contribution	almost no	too few	relevant arguments/responses
4	cooperated well	cooperated well	too few	almost no	scientific contribution	almost no	too few	relevant arguments/responses

DISCUSSION WITH REPORTER

0	almost no	almost no	almost no	almost no	contribution of topics	almost no	almost no	own opinions
1	very little	some	some	some	contribution of topics	almost no	almost no	own opinions
2	some	average	some correct	some correct	contribution of topics	almost no	almost no	own opinions
3	reasonable	to most topics	to some extent	leading or cooperative	contribution of topics	almost no	almost no	own opinions
4	all & efficiently	practically all points	practically all	very efficient	contribution of topics	almost no	almost no	own opinions

ANSWERS TO JURY and REVIEWER'S QUESTIONS

0	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well
1	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well
2	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well
3	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well
4	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well

ANSWERS TO JURY and REVIEWER'S QUESTIONS

0	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well
1	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well
2	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well
3	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well
4	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well

OPONENT      1 + 1 + 2 - 0 = 6

Start from 1 and add/subtract

QUESTIONS ASKED

0	almost no, irrelevant	some unclear points	some relevant, aimed at resolving	time used	understanding of	relevant topics	correct own	priority
1	almost no, irrelevant	some unclear points	some relevant, aimed at resolving	time used	understanding of	relevant topics	correct own	priority
2	short allowing short answers, prioritized, all time used	some unclear points	some relevant, aimed at resolving	time used	understanding of	relevant topics	correct own	priority
3	almost all	all relevant points	practically all points	practically all	practically all	practically all	practically all	practically all
4	all & efficiently	practically all points	practically all points	practically all	practically all	practically all	practically all	practically all

DISCUSSION WITH REPORTER

0	almost no	almost no	almost no	almost no	contribution of topics	almost no	almost no	own opinions
1	very little	some	some	some	contribution of topics	almost no	almost no	own opinions
2	some	average	some correct	some correct	contribution of topics	almost no	almost no	own opinions
3	reasonable	to most topics	to some extent	leading or cooperative	contribution of topics	almost no	almost no	own opinions
4	all & efficiently	practically all points	practically all	very efficient	contribution of topics	almost no	almost no	own opinions

ANSWERS TO JURY and REVIEWER'S QUESTIONS

0	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well
1	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well
2	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well
3	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well
4	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well

ANSWERS TO JURY and REVIEWER'S QUESTIONS

0	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well
1	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well
2	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well
3	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well
4	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well

REVIEWER      1 + 2 + 2 - 0 = 7

Start from 1 and add/subtract

QUESTIONS ASKED

0	too few, mostly irrelevant	some relevant, sufficient number, could	clear things out	report summary & understanding	discussion	analysis	almost no	almost no
1	too few, mostly irrelevant	some relevant, sufficient number, could	clear things out	report summary & understanding	discussion	analysis	almost no	almost no
2	resolved, aimed at both rep. and opp.	most time used, many unclear points	most time used, many unclear points	report summary & understanding	discussion	analysis	almost no	almost no
3	time managed efficiently	+short, apt and clear, well prioritized	+short, apt and clear, well prioritized	report summary & understanding	discussion	analysis	almost no	almost no

REVIEW OF REPORT

0	poor	almost no	too few	own opinions	discussion	analysis	almost no	almost no
1	partial	too short/long	some	own opinions	discussion	analysis	almost no	almost no
2	good	relevant parts	many	own opinions	discussion	analysis	almost no	almost no
3	detailed, complex,	relevant parts	many	own opinions	discussion	analysis	almost no	almost no

REVIEW OF OPPOSITION

0	poor	almost no	too few	own opinions	discussion	analysis	almost no	almost no
1	too short/long	too short/long	some	own opinions	discussion	analysis	almost no	almost no
2	informative, apt	relevant parts	many	own opinions	discussion	analysis	almost no	almost no
3	brief but accurate	relevant parts	many	own opinions	discussion	analysis	almost no	almost no

ANSWERS TO JURY and REVIEWER'S QUESTIONS

0	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well
1	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well
2	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well
3	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well
4	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well

ANSWERS TO JURY and REVIEWER'S QUESTIONS

0	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well
1	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well
2	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well
3	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well
4	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well	concealed well

NOTES:

# SCORESHEET

stage: 3

fight (round no.): 5

reporter: *Chase Tapp* opponent: *Serbia*

room: A reviewer: *Russia*

problem no.: 13

*Researching*  
juror's name: *Kent*

signature: *Kent H*

REPORTER  
Start from 1 and add/subtract  
1 + 4 = 5 - 0 = 5

## REPORT

0	phenomenon explanation	theory/model	almost no	some	some	no/almost no	others' data, incorrectly cited	misunderstood	0	almost no	contribution	scientific	relevant	efficiency	almost no, chaotic	REVIEWER'S QUESTIONS
1	some	some	fair	well performed,	deviations	not well fitting	review of sources, cited	partly	1	average	interesting	points cleared	only technical	some	avoided some	no questions asked
2	some	fair	some	fair	deviations	not well fitting	review of sources, cited	partly	2	average	interesting	points cleared	only technical	some	avoided some	no questions asked
3	some	fair	some	well performed,	deviations	not well fitting	review of sources, cited	partly	3	average	interesting	points cleared	only technical	some	avoided some	no questions asked
4	good	good	good	sufficient number	qualitatively analysed	qualitatively analysed	some interesting results	interesting	4	above average	interesting	points cleared	only technical	some	avoided some	no questions asked
5	detailed	quite detailed,	+ results explained	+ errors analysed	explained, conclusive	+ theory limits	considerable experimental	some aspects	5	above average	discussed	brought in new	physics	convincingly supported	answered directly	some incorrect,
6	demonstrative	detailed, complex,	correct	convincing analysis,	well fitting, deviations	convincing analysis,	convincing experimental	greater extent	6	greater extent	discussed	brought in new	physics	convincingly supported	answered directly	deeply incorrect or show
7	shows physical insight	completely testable	convincing analysis,	convincing analysis,	well fitting, deviations	convincing analysis,	convincing experimental	greater extent	7	greater extent	discussed	brought in new	physics	convincingly supported	answered directly	deeply incorrect or show

## NOTES:

- QUESTIONS ASKED
- 0 — almost no, irrelevant
  - 1 — some relevant, aimed at resolving
  - 2 — short allowing short answers, prioritized, all time used
  - 3 —
  - 4 —

## OPPONENT

Start from 1 and add/subtract

1 + 1 = 2 - 1/2 = 1.5

0	time used	understanding of	relevant topics	correct own	prioritisation	0	almost no	contribution of topics	presented	own opinions	efficiency	prioritisation	0	almost no	contribution of topics	presented	own opinions	efficiency	prioritisation
1	almost no	almost nothing	no or irrelevant	no or irrelevant	no	1	little	irrelevant	very little	almost no	efficiency	prioritisation	0	almost no	contribution of topics	presented	own opinions	efficiency	prioritisation
2	very little	some main points	few	some	almost no	2	little	irrelevant	very little	almost no	efficiency	prioritisation	0	almost no	contribution of topics	presented	own opinions	efficiency	prioritisation
3	almost all	all relevant points	many	to most topics	reasonable	3	good	many	many correct	some correct	leading or cooperative	some	1	some	leading or cooperative	some	some correct	quite efficient	reasonable
4	all & efficiently	practically all points	practically all	+ improvement	very good	4	new crucial point(s)	almost all	+ improvement	suggestions	very efficient	very good	2	some	leading or cooperative	some	some correct	quite efficient	reasonable

## NOTES:

- QUESTIONS ASKED
- 0 — almost no, irrelevant
  - 1 — some relevant, aimed at resolving
  - 2 — short allowing short answers, prioritized, all time used
  - 3 —
  - 4 —

## DISCUSSION WITH REPORTER

Start from 1 and add/subtract

1 + 1 = 2 - 1/2 = 1.5

0	time used	understanding of	relevant topics	correct own	prioritisation	0	almost no	contribution of topics	presented	own opinions	efficiency	prioritisation	0	almost no	contribution of topics	presented	own opinions	efficiency	prioritisation
1	almost no	almost nothing	no or irrelevant	no or irrelevant	no	1	little	irrelevant	very little	almost no	efficiency	prioritisation	0	almost no	contribution of topics	presented	own opinions	efficiency	prioritisation
2	very little	some main points	few	some	almost no	2	little	irrelevant	very little	almost no	efficiency	prioritisation	0	almost no	contribution of topics	presented	own opinions	efficiency	prioritisation
3	almost all	all relevant points	many	to most topics	reasonable	3	good	many	many correct	some correct	leading or cooperative	some	1	some	leading or cooperative	some	some correct	quite efficient	reasonable
4	all & efficiently	practically all points	practically all	+ improvement	very good	4	new crucial point(s)	almost all	+ improvement	suggestions	very efficient	very good	2	some	leading or cooperative	some	some correct	quite efficient	reasonable

## DISCUSSION WITH OPONENT

Start from 1 and add/subtract

1 + 1 = 2 - 1/2 = 1.5

0	time used	understanding of	relevant topics	correct own	prioritisation	0	almost no	contribution of topics	presented	own opinions	efficiency	prioritisation	0	almost no	contribution of topics	presented	own opinions	efficiency	prioritisation
1	almost no	almost nothing	no or irrelevant	no or irrelevant	no	1	little	irrelevant	very little	almost no	efficiency	prioritisation	0	almost no	contribution of topics	presented	own opinions	efficiency	prioritisation
2	very little	some main points	few	some	almost no	2	little	irrelevant	very little	almost no	efficiency	prioritisation	0	almost no	contribution of topics	presented	own opinions	efficiency	prioritisation
3	almost all	all relevant points	many	to most topics	reasonable	3	good	many	many correct	some correct	leading or cooperative	some	1	some	leading or cooperative	some	some correct	quite efficient	reasonable
4	all & efficiently	practically all points	practically all	+ improvement	very good	4	new crucial point(s)	almost all	+ improvement	suggestions	very efficient	very good	2	some	leading or cooperative	some	some correct	quite efficient	reasonable

## ANSWERS TO JURY and REVIEWER'S QUESTIONS

- QUESTIONS ASKED
- 0 — concise and correct or
  - 1 — questions asked
  - 2 — some incorrect,
  - 3 — inconclusive or too long
  - 4 — deeply incorrect or show
  - 5 — deep misconceptions

## ANSWERS TO JURY

- QUESTIONS ASKED
- 0 — concise and correct or
  - 1 — questions asked
  - 2 — some incorrect,
  - 3 — inconclusive or too long
  - 4 — deeply incorrect or show
  - 5 — deep misconceptions

## REVIEWER

Start from 1 and add/subtract

1 + 2/2 = 2 - 1 = 1

0	report summary & understanding	discussion analysis	own opinions	pros & cons	prioritisation	0	poor	almost no	too few	irrelevant	almost no	no	0	concise and correct or
1	poor	almost no	too few	irrelevant	almost no	1	poor	almost no	too few	irrelevant	almost no	no	0	concise and correct or
2	good	relevant parts	many	mostly adequate	some	2	informative, apt	relevant parts	many	mostly adequate	some	some	1	some incorrect,
3	detailed, complex,	accurate, conclusive,	+ improvement	fully	good	3	brief but accurate,	conclusive,	+ improvement	adequate	fully	good	2	deeply incorrect or show

## NOTES:

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

## ANSWERS TO JURY

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



Juror	Team	Stage 1			Stage 2			Stage 3			Stage 4		
		Rep	Opp	Rev	Rep	Opp	Rev	Rep	Opp	Rev	Rep	Opp	Rev
Kent Hogan		4	6	8	8	7	6	7	5	6			
Lars Grønjo		4	6	7	6	6	5	6	6	6			
Ringli He		6	7	7	8	7	6	6	6	7			
Pina Izadi		3	5	7	8	7	4	5	4	7			
Volodymyr Kulinetskiy		4	8	7	8	7	8	8	4	7			
Acting Team Member													
		Milos Rasic	Alexey Kudavtsev	Yu-Hsi Wang	Ivan Lin	Chun-Ju Lin	Edvin Maid	Tzu-ken Shen	Luka Lazarević	Polina Turishcheva			
Rejected Problems		—			—			—					
Accepted Problem		6. Fast Chain			16. Metronome Synchronization			13. Resonating Glass					

Signature Fight Assistant: *[Signature]* Double-checked with Scoring Guidelines by second Fight Assistant (signature): *[Signature]* *Clyde Lhui*