

Rules for the Swedish physicists' tournament 2017/2018.

§0. The official rules of the IPT (as Published January 24, 2017, henceforth referred to as “*official rules*”) applies also to the national Swedish tournament with the following exception;

In case of conflict between the *official rules* and the *special rules for the Swedish national tournament* the *special rules of the Swedish national tournament* takes precedence and supersedes *the official rules*.

Special Rules of the Swedish national tournament

§1 The PF regulations

§1.1. In the course of a PF, team members are only allowed to communicate with participants of the same PF. Before the beginning of a PF, the jury and the teams are introduced.

§1.2. Each PF consists of three Rounds. In each Round, a team plays one of the three roles: Reporter, Opponent or Reviewer. If only two teams are present only two rounds are played and only Reporter and Opponent roles are used. In the subsequent rounds of the PF, the teams change their roles according to the table in the *official rules*. If only two teams are present the two teams exchange their roles after the first round.

§1.3. If three teams are present the procedure to determine the order of the PF follows that of the *official rules*. If only two teams are present, the winner of the captain fight in each PF determines who reports first.

§1.4. The problems for Captains' Fights are prepared by the LOC. The captain fights consist of a challenging little task or test in physics/math, and cannot exceed 3 minutes.

§2 Stage regulations

§2.1. The PF is ruled by a chairperson, selected by the LOC. Each Stage schedule is regulated by the chair according to the following table:

The performance order in the Stage of a PF	Reserved time in minutes 2 teams	Reserved time in Minutes 3 teams
1. The Opponent challenges the Reporter to present a problem	1	1
2. The Reporter accepts or rejects the challenge	1	1
3. Preparation of the Reporter	5	5
4. Presentation of the report	12	12
5. Questions from the Opponent to the Reporter and answers of the Reporter	2	2
6. Preparation of the Opponent	3	3
7. The Opponent's speech	5	5

8. Discussion between the Reporter and the Opponent	5	5
9. Questions from the Reviewer to the Reporter and the opponent	-	2
10. Preparation of the Reviewer	-	1
11. The Reviewer's speech	-	3
12. Discussion between Reviewer, Reporter and Opponent	-	4
13. General discussion between the teams	5	5
14. Concluding remarks by the Reporter	1	1
15. Questions from the Jury	6	6
16. Jury decides marks	1	1
17. Jury remarks/comments	4	4

§2.2. Each team participating in a PF has the right to use one time-out during the whole PF. The time-out lasts for one minute and during the time-out every participant of the round can consult with her/his team. The time-out cannot be taken during any team's presentation.

§3. The rounds in a PF

§3.1. The Reporter presents the essence of the solution to the problem, attracting the attention of the audience to the main physical ideas and conclusions. It is strongly recommended that the Reporter presents some original ideas and a self-made experiments in the report.

§3.2. The Opponent puts questions to the Reporter and criticizes the report, pointing to qualities and/or possible inaccuracies and errors in the understanding of the problem and in the solution. The Opponent analyses the advantages and drawbacks of both the solution and the presentation of the Reporter. The discussion between the Opponent and Reporter should focus on how to correct or improve the Reporter solution. Some experimental results obtained by the Opponent that clearly exhibit the inconsistencies of the Reporter's model and/or short calculations that show the errors or inapplicability of Reporter's theory can be presented in a very brief way. The Jury should decide on the relevance of such elements for the discussion. At the end of the discussion, the participants should agree on what can be changed/improved on the Reporter solution.

§3.3 The Reviewer (if present) presents a short summary of the presentation of the Reporter and Opponent. The Reviewer presentation should mention in particular if the discussion between the Reporter and Opponent has been fruitful or not, and why. The Reviewer can mention which aspects of the problem could have been addressed, but cannot mention his own results on the problem. The main goal of the Reviewer is to summarize the work done by the Reporter and the Opponent as from a jury member point of view, in order to help the jury decide their marks. In the following discussion between all the participants, the Reviewer will moderate the discussion between the Reporter and Opponent, helping them to focus on the most important physical points of the problem.

§3.4. During a PF only one member of a team takes the floor as an Opponent or a Reviewer but there can be up to two Reporters. Other members of the teams are allowed to help with the presentations technically. There are no limitations on communication between team members during the preparation time. The team members are allowed to give their players brief remarks in written form at any time,

except for the Reporter's, Opponent's and Reviewer's presentations.

§3.5. No member of a team is allowed to take the floor more than once during a PF.

§4. Problem challenges and rejections

§4.1. All problems presented during the national competition must be different.

§4.2. The Opponent may challenge the Reporter on any problem with the exception of a problem that: a) was permanently rejected by the Reporter earlier; b) was presented by the Reporter earlier; c) was opposed by the Opponent earlier; d) was presented by the Opponent earlier. If there are no problems left to challenge, the bans d), c), b), a) are successively removed, in that order.

§4.3. The Reporter may **tactically reject the challenge of one problem** in each PF without penalty. In addition to this, each team has one permanent rejection that once made, applies to the entire national tournament.

§4.4. Every additional rejection is considered as a tactical or permanent rejection (by team choice) and induces a penalty. For each penalty the coefficient of the Reporter is decreased by 0.2. This reduction continues to apply during the following PFs.

§5. The grading

§5.1. After each stage the jury grades the teams, taking into account the presentations, questions, answers to the questions and participation in the discussion.

§5.2. Each jury member shows integer marks from 0 to 10.

§5.3. This sum is used to calculate the mean mark for the team. The mean marks are multiplied by different coefficients: 3.0 or less (see section on "Problem challenges and rejections") for the Reporter and 2.0 for the Opponent, and 1.0 for the Reviewer (if present).

§5.4. For a team in a PF the sum of points (SP) is the sum of mean marks, multiplied by the corresponding coefficients and rounded to one decimal. Additionally, for three teams in a PF, the team who won the PF receives 2 additional points, and the team who came second one additional point. For two participating teams in a PF the winning team is rewarded with 1 extra point.

§5.5. The total sum of points (TSP) of a team in the tournament is equal to the sum of SPs in the two PFs. The number of fights won (FW) is the number of PFs, in which a team received the highest SP amongst the participating teams in the PF.

§5.6. The team having the highest TSP wins the national tournament. In case of an equal score, the number of FW determines the winner. In case of also an equal number of FW, a special jury meeting will be called to determine the winner.