

The Regulations of the Austrian Young Physicists' Tournament

I. Austrian Young Physicists' Tournament

The Austrian Young Physicists' Tournament (AYPT) is a competition among teams of secondary school students in their ability to solve complicated scientific problems, to present solutions to these problems in a convincing form and to defend them in scientific discussions, called Physics Fights (PF). It is carried out by the association "AYPT – Forschungsforum junger Physiker" according to the articles of association, appendix A. The Organizing Committee for the AYPT is selected by the Executive Committee of the association.

II. The problems of the AYPT

The problems of the AYPT will be the same as for the IYPT (International Young Physicists' Tournament), in accordance with Article II of the Regulations of the International Young Physicists' Tournament.

III. The participants of the AYPT

1. The Austrian teams

Any Austrian secondary high school may send one (or more) team(s) to the AYPT.

2. Foreign teams

The AOC may invite any number of foreign teams. Those teams compete in the same way as the others but they are not taken into account when compiling the Austrian National Team (see Section XIV).

3. The membership of the teams

The AYPT team is composed of five secondary school students. The secondary school graduates could participate in the AYPT in the year of their graduation. The participation of university students is not allowed. The Organizing Committee may allow participation of teams of four or three students. The composition of the team cannot be changed during the Tournament. The team is headed by a captain who is the official representative of the team during the PF.

4. The team is accompanied by a team leader.

IV. The Jury

The Jury is nominated and organized by the Organizing Committee. The Jury consists of at least five members. Team leaders may be included in the Jury. The team leaders cannot be members of the Jury in the PF where their teams participate and should not, if possible, grade the same team more than twice.

V. The agenda of the AYPT

The AYPT is carried out in a period determined by the Organizing Committee. All teams participate in the Selective PFs. Selective PFs are carried out according to a special schedule determined by the Organizing Committee according to the number of participating teams, following the rule that, if possible, no team meets another team more than twice. This schedule should be known before numbers are ascribed to the teams by lot. The best teams participate in the Final PF.

VI. The Physics Fight regulations

Three or four teams participate in a PF, depending on the total number of teams. In the course of a PF the members of a team communicate only with each other.

Before the beginning of a PF, the Jury and the teams are introduced.

The PF is carried out in three (or four) Stages. In each Stage, a team plays one of the three (four) roles: Reporter, Opponent, Reviewer (Observer). In the subsequent Stages of the PF, the teams change their roles according to the schemes:

Three teams PF

	Stage 1	2	3
Team			
1	Rep	Rev	Opp
2	Opp	Rep	Rev
3	Rev	Opp	Rep

Four teams PF

	Stage 1	2	3	4
Team				
1	Rep	Obs	Rev	Opp
2	Opp	Rep	Obs	Rev
3	Rev	Opp	Rep	Obs
4	Obs	Rev	Opp	Rep

VII. The Stage regulations

The performance order in the Stage of a PF:

Reserved time in minutes

The Opponent challenges the Reporter for the problem	1
The Reporter accepts or rejects the challenge	1
Preparation of the Reporter	5
Presentation of the report	12
Questions of the Opponent to the Reporter and answers of the Reporter	2
Preparation of the Opponent	3
The Opponent takes the floor, maximum 4 min. and discussion between the Reporter and the Opponent	14
The Opponent summarizes the discussion	1
Questions of the Reviewer to the Reporter and the Opponent and answers to the questions	3
Preparation of the Reviewer	2
The Reviewer takes the floor	4
Concluding remarks of the Reporter	2
Questions of the Jury	5

In the Final PF the procedure of challenge is omitted.

The official language of the AYPT is English.

VIII. The team performance in the Stages

The Reporter presents the essence of the solution to the problem, attracting the attention of the audience to the main physical ideas and conclusions.

The Opponent puts questions to the Reporter and criticizes the report, pointing to possible inaccuracy 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 of the Opponent should not become a presentation of his/her own solution. In the discussion, the solution presented by the Reporter is discussed.

The Reviewer presents a short estimation of the presentations of Reporter and Opponent.

The Observer does not participate actively in the PF.

During one PF only one member of a team takes the floor as Reporter, Opponent or Reviewer; other members of the team are allowed to make brief remarks or to help with the presentation technically. No member of a team may take the floor more than twice during one Selective PF or, as Reporter, more than three times in total during all Selective PFs. During the Final PF any team member can take the floor only once.

The LOC must inform about the devices available for presentations not later than two months before the AYPT.

IX. The rules of problem-challenge and rejection

1. All problems presented in the same PF must be different.

2. *Selective PF*

The Opponent may challenge the Reporter on any problem with the exception for a problem that:

- a) was 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 less than five problems left to challenge, the bans d), c), b), a) are successively removed, in that order.

During the Selective PFs the Reporter may reject the challenge of five different problems in total without penalty. For every subsequent rejection the coefficient of the Reporter (see section X) is decreased by 0.2. This reduction continues to apply during the following selective PFs.

The following special rules apply to the last Selective PF:

- The procedure of challenge is omitted. All teams may choose the problem they want to present. The only exception is that a team may not present a problem, which they presented earlier in the Selective Fights.
- In case teams of one group choose the same problem, priority is given to the team with the higher TSP (see section XI).
- Teams must choose their problems for the last Selective Fight as soon as possible after the results of the preceding Selective Fight are official. The choice must be made public immediately.
- The problem which a team presents in this PF may not be presented again in the Final PF by the same team.

3. *Final PF*

All teams hand in a (prioritized) list of problems they wish to present in the Final at a time specified by the Organizing Committee. After the results of the Selective PFs are known, the choice of the teams participating in the Final is published immediately. In case teams choose the same problem, priority of selecting problems for the Final is determined by the TSP (in case of equality by lot).

X. The grading

After each stage the Jury grades the teams, taking into account all presentations of the members of the team, questions and answers to the questions, and participation in the discussion. Each Jury member shows integer marks from 1 to 10. The mean of the highest and the lowest marks is counted as one mark which is then added to the remaining marks. This sum is used to calculate the mean mark for the team. The mean marks are multiplied by various coefficients: 3.0 or less (see section IX) for the Reporter, 2.0 for the Opponent, 1.0 for the Reviewer and then transformed into points.

In the Final, grading is done in secret. Jurors write down their grades on the grading sheets, sign them, and give them to the Final's Fight Assistants. The Chair asks the jurors of the highest and lowest grades to justify and explain their grades. This is done without mentioning the actual grade. The results are kept secret until they are officially announced during the award ceremony. After the announcement, all grading sheets and the detailed results are published online so that anyone can check the result.

XI. The resulting parameters

1. *For a team in the PF*

The sum of points (*SP*) is the sum of mean marks, multiplied by the corresponding coefficients and rounded to one decimal.

2. *For a team in the Tournament*

The total sum of points (*TSP*) equals the sum of *SP* of the team in all Selective PFs.

XII. The Final

The three teams having the highest TSP in the Selective PFs participate in the Final. In case teams have equal TSP, their participation in the Final is decided by the most balanced teamwork during the Selective PFs, in case of equality by lot.

The order of presentation in the Final is determined by position by entering the final: the higher the *position*, the higher the number in the scheme of section VI.

XIII. The final team ranking of the AYPT

The winner of the Final obtains the 1st place. If two or three teams have the same SP result in the final, the winner is nominated according to the highest TSP. The other two teams participating in the Final share the 2nd place. For teams not participating in the Final, the Organizing Committee decides, according to the TSP obtained, which teams will share the 3rd place.

XIV. Compiling the Austrian National Team

After the end of the AYPT the decision about the composition of the Austrian national team is made according to the procedure outlined in appendix A of the articles of association.

XV. The status of the regulations of the AYPT

The regulations are established by the Executive Committee of the association and may be changed only by the Executive Committee.

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