

Physics Education at the Camps of The Internet Physics Competition FYKOS

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Abstract

This presentation informs about the good practice in the organisation of physics educational camps of the FYKOS. It presents some attested parts of programme which are popular among participants and which stimulate their personal development.

FYKOS, freely translated as the Physics Correspondence Competition, called in English usually as the Internet Physics Competition (<http://fykos.org>), is an activity held for over 29 years by Charles University – Faculty of Mathematics and Physics. Participants of the FYKOS are high school students (ISCED 3; further participants) and the problems/tasks are prepared by university students (ISCED 5, 6 & 7; organizers). These university students organize also face-to-face activities with educational load for the best participants of the competition. The camps are most traditional activity of these face-to-face activities – it has been organized for more than 25 years twice a year – in spring and in autumn. This contribution informs about the experiences with the camps and its importance in increase in motivation for further Physics education.

FYKOS' camps are a week long stays in objects near nature (further from bigger cities) with rich programme – lectures, experiments and games. Usually are there roughly 28 participants and 12 organizers.

The most formal parts of programme are lectures. But these lectures are based in informal setting (there are around 4 – 9 participants on each lecture) so every lecture is shaped to the needs of the participants and they can be very active there. Levels of lectures are from the high school to the more advanced levels of university lectures, and participants can choose which is the best for them. One day of each camp is for the preparation and realisation of a physics experiment and its subsequent processing and preparation of its presentation. And usually in the evening a “conference” is held where the participants present their experimental problem to the others and they should also constructively oppose the work of other teams. Another evening is usually filled with experiments with the liquid nitrogen.

Games are used for diversification of the programme as well as they should improve the participant's key competences like social and communication competence, teamwork and even more kinds of soft skills.

It is also important, that the organizers are improving their skills by preparation and realisation of the programme. Very important role of camps is a creation of personal connections and social network among participants and organizers as well. The camps are usually the main reason for the participants why they continue with solving of the FYKOS in the next years. The FYKOS' camps are also a good choice for those who want to have success in the Physics Olympiad and it is also a good preparation for further studies in the field of Physics.

Keywords

Physics camps, physics education, informal education, correspondence competition, The Internet Physics Competition

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