

Sixteenth Marcel Grossmann Meeting



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Teaching Relativity at the AstroCamp

Friday, 9 July 2021 08:30 (25 minutes)

The AstroCamp is an academic excellence program in the field of astronomy and physics for students in the last 3 years of pre-university education, i.e. roughly 15-18 year olds. It was created in 2012 and is organized by CAUP and several national and international partners, and now accepts applications from 42 eligible countries. Academic activities include two courses (each with 15h of lectures and a 2h written exam), given by currently active researchers with a PhD in a relevant area. In most of the 10 editions, one course or a significant part thereof was devoted to Relativity (both Special and General). This is to a large extent driven by the camp students themselves: one of the principles of the camp is that students are involved in the choice of the courses offered in the camp, and Relativity is clearly the prime example of a topic that the students feel is not satisfactorily covered in their school classes (if it is at all), and for which their school teachers are often unable to provide further information.

In this presentation, after a brief introduction to the principles, goals and structure of the camp, I will describe the approach followed by camp lecturers (myself and others) for teaching Special and General Relativity, and some lessons learned and feedback from the students. Time permitting I will also provide some thoughts on the differences between the physics and mathematics secondary school curricula in Portugal and in other countries, and on how these curricula could be modernized.

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Session Classification: Teaching Einsteinian Physics to School Students

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