



Contribution ID: 1409

Type: Poster

Virtual visits to the Virgo Gravitational Wave detector for schools across Europe and beyond

Virgo, hosted at the European Gravitational Observatory (EGO) in Cascina, Italy, is one of the most advanced physics research centers in Europe. As part of its education and public outreach mission, Virgo virtually opens its doors for schools across Europe and beyond with remote guided tours in English. Visiting a cutting-edge research laboratory like Virgo offers a unique opportunity to explore science directly in the place where it is developed, guided by the voices of experts. The purpose of the Virgo virtual tour project is to provide a deeper understanding of how a large scientific infrastructure works, to promote science dissemination through informal learning experiences, and to engage students, particularly those in middle and high schools. The virtual visits for schools are organized through a live Zoom connection. During the visit, a Virgo researcher conducts students from schools around the world on a virtual journey to discover gravitational waves and the only observatory in Europe capable of detecting them. In order to conduct the evaluation of this activity and analyze its impact, various survey tools were used, such as questionnaires. Specifically, a pre-questionnaire and a post-questionnaire were prepared for the students, to be compared later to assess how the virtual tour experience had influenced their responses and to gather information about their background in order to better understand the audience. Additionally, a dedicated form was sent to the teachers to collect their feedback and gain a comprehensive overview of the initiative's effectiveness.

This contribution aims to present the virtual tour program of the EGO and Virgo collaboration as a tool for communication and education in STEM fields, as well as the results obtained through the evaluation of this activity. The virtual tour program is part of the European project Physics fOr all –PICO, which aims to raise public awareness of the importance of fundamental physics and its applications, highlighting its impact on everyday life. Through a series of dedicated visits for schools in the 2024-2025 school year, over 1500 students from 50 schools participated in the virtual tours, coming from European countries such as Greece, Spain, Italy, and Romania, as well as schools from overseas and other parts of the world, including the United States, Brazil, India, Mexico, and Uzbekistan, overcoming even the challenges posed by time zones. The present contribution provides the first results on the evaluation of the pedagogical fit of this activity.

Collaboration(s)

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Session Classification: PO-1

Track Classification: Outreach & Education