



UNIVERSITÀ
DI TRENTO

Dipartimento di
Fisica



PhD Program in Space Science and Technology - SST

Direct cosmic-ray measurements in multi-messenger era

Specific Seminar – Curriculum 1

April 16, 2025, 2.30 p.m.

Speaker:

Prof. Nahee Park, Department of Physics, Engineering Physics & Astronomy - Queen's University

Abstract:

Cosmic rays, high-energy particles originating from outside of the solar system, are believed to be dominated by particles from our Galaxy at least up to the energy of 10^{15} eV (PeV). The origin of these particles has been a century-old question. This includes the source of these particles, how they get their energies, and how they propagate to Earth.

Recent developments in multi-messenger observations of high-energy astroparticles, mainly gamma-ray and neutrino observations, have revealed indirect measurements of the high-energy cosmic ray interactions around the source region and during their propagation. To combine these indirect measurements with the local measurements of direct cosmic rays, we need to improve our understanding of cosmic ray propagation. I will review the current measurements of Galactic cosmic rays and discuss future measurements focusing on direct cosmic ray measurements to improve our understanding of cosmic ray propagation.

<https://indico.gssi.it/event/739/>

Online attendance:

Remote Link: <https://gssi-it.zoom.us/j/83078833542?pwd=S2tJVVY3WWZHbDcvSXBhd0N4cWlCQT09>

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