FONDAZIONE BRUNO KESSLER

ECT*
EUROPEAN CENTRE FOR THEORETICAL STUDIES IN NUCLEAR PHYSICS AND RELATED AREAS

HYBRID WORKSHOP

Opportunities with JLab Energy and Luminosity Upgrade

Trento, 26 – 30 September 2022

The Jefferson Lab upgraded to 24~GeV, will supersede HERMES, which even after being closed already 10 years still defines the landscape of the nucleon 3D structure, collecting years of HERMES data in days. Energy upgrade of JLab will provide access to the full range of kinematics where the non-perturbative sea is expected to be significant, also opening up the phase space to access large momentum transfer and large transverse momenta of final state particles. In addition, near-threshold charmonium photoproduction will enable studies of the gluonic properties of the proton, and an extensive program at the intensity frontier will cover light and heavy quark hadron spectroscopy in a single experiment. The possibility of a positron beam with the same properties and qualities as the electron beam will be a tremendous benefit for the physics program and the production of secondary beams at JLab, for instance, K-long beams will also benefit enormously from the energy upgrade, providing access to much wider kinematic domains.

Organizers

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Key Speakers

Will Brooks (Universidad Técnica Federico Santa María), Mariangela Bondì (INFN - Sezione di Catania), Martha Constantinou (Temple University), Marc oContalbrigo (Ferrara University), Pasquale Di Nezza (INFN e Laboratori Nazionali di Frascati), Sean Dobbs (Florida State University), Raphaël Dupré (IJCLab - CNRS - Univ. Paris-Saclay), Liping Gan (University of North Carolina Wilmington), Huber Garth(University of Regina), Wenliang Li (CFNS, Stony Brook University), Keigo Mizutani (Jefferson Lab), Andrea Moretti (University of Trieste and INFN), Aram Kotzinian (INFN/Torino, Italy & AANL (YerPhI), Yerevan, Armenia), Jen-Chieh Peng (University of Illinois), Alessandro Pilloni (Università di Messina), Patrizia Rossi (Jefferson Lab/INFN-LNF), Craig Roberts (Nanjing University), Sargsian Misak (Florida International University), Nobuo Sato (Jefferson Lab), Andrea Signori (INFN/Torino and Torino U.), Paweł Sznajder (National Centre for Nuclear Research), Anselm Vossen (Duke University), Zhao Yong (ANL)

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