

ECT*-APCTP joint workshop: exploring resonance structure with transition GPDs

Trento, 21–25 Aug 2023

ORGANIZERS

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ABSTRACT

Generalized Parton Distributions (GPDs) are a well-established tool for exploring the 3D structure of the nucleon and mechanical properties such as the distributions of energy/momentum and forces in the system. While extensive studies have been performed for the ground-state nucleon, little is known about the 3D structure of resonances. The nucleon-to-resonance ($N \rightarrow N^*$) transition GPDs provides a unique tool for exploring the 3D structure and mechanical properties of nucleon resonances. They can be measured in exclusive processes with $N \rightarrow N^*$ transitions. First data on these reactions are becoming available from experiments at JLab12, and strategies for their analysis and theoretical interpretation need to be developed. The workshop will bring together theorists and experimentalists, in particular, including scientists from APCTP and ECT* member countries, to review the status of nucleon GPDs, present the first experimental results for transition GPDs, develop a strategy for analysis and interpretation, and discuss the prospects of future experimental programs (JLAB, EIC, J-PARC, PANDA).

KEY SPEAKERS

Valerio **BERTONE** (IRFU, Saclay, F) - Wen-Chen **CHANG** (Institute of Physics, Academia Sinica, TW)
Pierre **CHATAGNON** (Jefferson Lab, US) - Martha **CONSTANTINO** (Temple University, US)
Yuxun **GUO** (University of Maryland, US) - Alex **JENTSCH** (Brookhaven National Lab, US)
Hyon-Suk **JO** (Kyungpook National University, KR) - Andrey **KIM** (University of Connecticut, US)
Peter **KROLL** (University of Wuppertal, D) - Shunzo **KUMANO** (Japan Women's University/KEK, JP)
Simonetta **LIUTI** (University of Virginia, US) - Ronan **McNULTY** (University College Dublin, IR)
Deborah **RÖNCHER** (FZ Juelich, D) - Kirill **SEMENOV-TYAN-SHANSKIY** (KNU, KR)
Hyun-Dong **SON** (University of Korea, KR) - Paweł **SZNAJDER** (National Centre for Nuclear Research, PL)
Ali **USMAN** (University of Regina, CA) - Marc **VANDERHAEGEN** (University of Mainz, D)
Michael **WINN** (CEA/Irfu Saclay, F)

Director of ECT*: Professor Gert Aarts

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