2023 Helmholtz – OCPC – Programme

for the involvement of postdocs in bilateral collaboration projects

PART A

Title of the project:

Electroweak physics with top quarks

Helmholtz Centre, division:

DESY-FH

Project leader:

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ATLAS

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Description of the project:

Our group is interested in top quark physics that enhances our knowledge of the electroweak interactions. Examples are the analysis of loop corrections from the Higgs boson to the top-quark pair production cross section or the measurement of top quarks together with Z or Higgs bosons. The postdoc is expected to take up a leading role in an analysis in this area together with a PhD student using ATLAS data from run 2 and partially run 3 of the LHC. In addition it is expected that the postdoc contributes to the operation of the ATLAS detector. Possibilities is the maintenance of the prompt calibration loop of the ATLAS SemiConductor Tracker (SCT) or the measurement of the luminosity at ATLAS using van der Meer scans

Description of existing or sought Chinese collaboration partner institute:

The partner institute should be member of the ATLAS collaboration at the LHC and should have an interest in similar physics as detailed in the project description.

Required qualification of the postdoc:

- PhD in particle physics
- Experience with data analysis at hadron colliders
- Some programming skills in Python and/or C++ are required
- Experience with Root is an advantage
- Good English knowledge is mandatory