

**FAKULTÄT für PHYSIK
LUDWIG-MAXIMILIANS-UNIVERSITÄT
MÜNCHEN/GARCHING**

**PHYSIK-DEPARTMENT
TECHNISCHE UNIVERSITÄT MÜNCHEN
MÜNCHEN/GARCHING**

Maier-Leibnitz-Kolloquium

Donnerstag, 30.01.2020, 16¹⁵ Uhr

Hörsaal der LMU in Garching, Am Coulombwall 1
Treffen zum gemeinsamen Kaffee 16 Uhr

Dr. Dominik Duda

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Searches for New Physics in diboson processes with the ATLAS detector

Many extensions of the Standard Model, like composite Higgs models or models with an extended Higgs sector, predict new heavy resonances decaying into pairs of bosons. With the large data set collected by the ATLAS experiment at the LHC at a center-of-mass energy of 13 TeV, searches for such new particles with masses up to several TeV are possible. These searches also provide one of the most sensitive probes for Higgs boson couplings beyond the Standard Model. With increasing amounts of data, the kinematic properties of the final state particles can be employed for these measurements in the context of effective field theories. Recent searches for heavy diboson resonances and measurements of the Higgs boson coupling structure with the ATLAS detector will be discussed as well as their future prospects.

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