Muon Collider Sensitivity to BSM Models with Extra Gauge Bosons and Heavy Neutral Leptons

The projects is 50% physics and 50% software roughly. The goal is to study the sensitivity of future highenergy muon colliders on models beyond the Standard models that contain both additional gauge bosons (Z') and heavy neutral leptons, i.e. heavy neutrinos. Heavy neutrinos shall be studied in prompt production and via decays of the Z'. In addition, the properties of the additional gauge bosons (Z', eventually also W') should be studied. As an add-on, transverse polarization of the muon beams can be studied and its influence on the phenomenology of heavy gauge bosons and heavy neutral leptons.

DESY Place

Hamburg

DESY Division

FH

DESY Group

Theorie

Field

B5: Theory of Elementary Particles

Special Qualifications:

Knowledge of quantum mechanics, familiarity with computers and software (e.g. numerical simulation), introductory knowledge on/basics of particle physics and the Standard Model

Primary authors: REUTER, Juergen (T (Phenomenology)); MEKALA, Krzysztof (T (Phenomenology)); LOESCHNER, Maximilian (T (Phenomenology))