

粒子物理学术报告

时间: 2014年9月1日(星期一) 下午 4:00PM-5:00PM

地点: 理科楼三楼物理系报告厅

Title: "The Monte-Carlo Event Generator WHIZARD"

Abstract:

The detailed simulation of particle-physics processes at the LHC and at future colliders is a complex problem. In the Monte-Carlo event generator WHIZARD, we combine the optimized semi-analytic calculation of matrix elements with a unique adaptive multi-channel handling of phase space, to enable an efficient and accurate evaluation of observables and event samples for the Standard Model and a large set of new-physics models. Intrinsic and exchangeable external modules handle the interplay with the complete collider environment, including non-perturbative properties of beams and final-state dynamics. We describe the current status of the program as well as plans and strategies to tackle the requirements of physics at the LHC, the planned ILC and further hadron- and lepton-collider projects.



Speaker: Wolfgang Kilian

Theoretical Particle Physics at the University of Siegen

Short Bio:

1994 PhD at Technical University of Darmstadt, Germany

1994-2003 postdoc at DESY, Heidelberg, and Karlsruhe, Germany

2003-2006 staff member at DESY, Theory Division

since 2006 professor at University of Siegen

Prof. Kilian's research is focused on embedding the Standard Model of elementary particles, with the Higgs boson as its keystone and most recent addition, as an effective theory in a more fundamental context. He studies scenarios and models where matter and Higgs particles organize themselves under new symmetries, which can connect quark and lepton interactions and combine the various forces in a unified picture. With other collaborators, he has developed and maintained the universal Monte-Carlo event generator WHIZARD, which is designed to calculate and simulate virtually all elementary processes of interest at the LHC and, in particular, the planned International Linear Collider (ILC).