

**Hauptvortrag** PV IV Di 10:00 RW 1  
**Finite Volume Methods for Hadron Resonances** — ●MICHAEL  
DÖRING — Helmholtz-Institut für Strahlen- und Kernphysik, Univer-  
sität Bonn, D-53115 Bonn

With the rapid progress of Lattice QCD, the spectrum of excited states starts to become into reach. This allows, for the first time, for an ab-initio test of the resonance spectrum. The extraction and analysis of resonances is a challenge due to lattice artefacts such as the finite lat-

tice volume. As will be discussed, hadronic calculations in the frame-  
work of effective field theory are the only tool to connect lattice QCD  
results to the infinite volume, i.e. the physical limit. Such calculations  
can be used to predict lattice spectra, estimate their required accuracy,  
or in case data are available, to analyze them. In addition, changing  
the boundary conditions of the problem allows for a direct access to  
many resonances as will be discussed for some of the most interesting  
excited states, such as the  $f_0(980)$ , the  $\Lambda(1405)$  and the broad scalar  
resonances.