

APR16-2016-000404

Abstract for an Invited Paper
for the APR16 Meeting of
the American Physical Society

Hadron resonances from QCD

JOZEF DUDEK, Jefferson Lab / Old Dominion University

I will discuss recent progress in utilizing lattice QCD techniques in the study of the hadron spectrum. State-of-the-art calculations are now able to determine hadron-hadron scattering amplitudes as a function of energy and to resolve resonant enhancements corresponding to excited hadrons. Going beyond now well-studied simple elastic cases like the ρ resonance in $\pi\pi$ scattering, I will show results for coupled-channel meson-meson scattering, and consider situations in which a current external to QCD is present, illustrated with the first calculation of the amplitude for $\gamma\pi \rightarrow \pi\pi$.