



Contribution ID: 65

Type: **not specified**

## Extracting Scattering Parameters using the Isospin Chemical Potential

*Friday, 18 June 2010 17:00 (20 minutes)*

Hadronic scattering mediated through the strong interaction has been an area of great interest for both theory and experiment. Recently, lattice QCD calculations of scattering processes from first principles have seen remarkable progress, including multiple calculations of two-pion scattering lengths that agree with experiment to within a few percent. However, there exists a certain class of scattering processes, such as pion-nucleon scattering, that contain annihilation diagrams, which are prohibitively expensive to simulate on the lattice. In this talk, I will present a method to extract certain parameters from this class of scattering processes by employing an isospin chemical potential, which can be simulated on the lattice as a result of its positive-definite fermion determinant.

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Talk

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**Session Classification:** Parallel 50: Hadronic structure and interactions

**Track Classification:** Hadronic structure and interactions