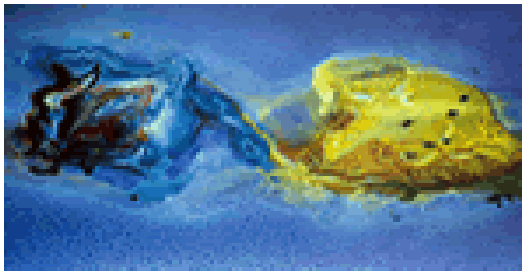

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Multi-hadron observables from lattice QCD

Sunday, 5 August 2018 11:00 (30 minutes)

Nearly half a century after its formulation, calculating the resonance spectrum of QCD in a reliable way continues to be challenging. These observables are of great interest, in particular because the abundance of exotic or otherwise poorly-understood states, together with new theoretical methods, could provide a real opportunity to unlock a deeper understanding of the strong force. Here numerical lattice QCD promises to be a powerful tool, systematically relating the quark- and gluon-field lagrangian to a tower of low-lying hadronic excitations. In this talk I will review the status of resonance lattice calculations in which the unstable nature of the excitations is rigorously treated by calculating multi-hadron scattering and transition amplitudes. I will outline both numerical and formal challenges and summarize recent progress on both fronts, focusing on coupled-channel scattering and three-particle states.

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