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## Three-hadron s- and d-wave interactions from lattice QCD

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The past several years have seen significant progress in the theoretical developments for interpreting three-particle finite-volume energies. The successful application of these frameworks using lattice data for three-pion and three-kaon systems with maximal isospin has been demonstrated from several groups using a modest set of energies to constrain the three-particle interactions. Here we present results to push the limits of these finite-volume formalisms by extracting hundreds of energies in frames up to, and including,  $L^2/(2\pi)^2$  *boldsymbol* $P^2 = 9$  on three CLS ensembles with pion masses of 200, 285, and 345 MeV at fixed lattice spacing. To date, only the generic relativistic field theory approach (RFT) has included higher partial waves, and we find the inclusion of d-wave interactions in both the two- and three-particle systems to be necessary to describe our data, thus going beyond s-wave interactions in the three-particle sector for the first time.

**Primary authors:** BLANTON, Tyler (University of Washington); Dr HANLON, Andrew (Brookhaven National Laboratory); Dr HÖRZ, Ben (Lawrence Berkeley National Laboratory); Prof. MORNINGSTAR, Colin (Carnegie Mellon University); ROMERO-LÓPEZ, Fernando (Universitat de València); Prof. SHARPE, Stephen (University of Washington)

**Presenter:** Dr HANLON, Andrew (Brookhaven National Laboratory)

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