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Quark-mass dependence of the Δ(1232) resonance parameters.

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We present results for the $N\pi$ finite-volume spectra on three different lattice volumes with fixed lattice spacing $a = 0.116$ fm and m_π ranging from 249 MeV to 137 MeV. The calculations employ $N_f = 2 + 1$ doubly-HEX-smeared clover fermions. We perform the calculations with total momenta up to $\vec{P} = (1, 1, 1)\frac{2\pi}{L}$ and all relevant irreps. Using the L\"uscher method we fit Breit-Wigner parametrizations of the $N\pi$ scattering amplitude to the spectra to obtain the mass and decay width of the lightest baryon resonance, the $\Delta(1232)$.

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