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Unquenching the meson spectrum: a model study of excited rho resonances

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Recent lattice results indicate that including meson-meson interpolating fields in unquenched calculations of the light-meson spectrum may give rise to huge relative mass shifts as compared to similar computations with only quark-antiquark degrees of freedom. I this talk I shall focus on the rho meson and its radial excitations, in the context of a unitarised quark model with all experimentally relevant meson-meson decay channels up to 2.0 GeV included. Note that such a system of highly excited mesonic resonances is still way beyond the capacities of the most advanced lattice approaches.
The employed formalism is the Resonance-Spectrum Expansion, which allows to solve the multichannel S-matrix in closed form. The few model parameters are adjusted to the P-wave pion-pion phase shifts measured several decades ago.
This work is in progress.

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