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Meson spectroscopy: too much excitement and too few excitations

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Contrary to widespread belief, there are not too many observed mesonic resonances to be accounted for by normal quark-antiquark states, which is the usually invoked argument to justify the introduction of (crypto)exotic configurations. The reasons why newly detected mesonic enhancements often seem to be incompatible with $q\bar{q}$ states can be manifold:

(i) the underlying confining potential may be different from what is generally taken for granted;
(ii) mass shifts due to unitarisation (or "unquenching") are mostly neglected;
(iii) unitarisation sometimes even yields extra, dynamically generated resonances, which nevertheless have a $q\bar{q}$ source;
(iv) the opening of strong decay thresholds generally distorts the line shapes of nearby resonances, or can even by themselves give rise to enhancements that look like resonances;
(v) large inelasticity effects between observed OZI-forbidden decays and non-observed OZI-allowed ones can lead to signal depletion at true resonances and/or thresholds, resulting in non-resonant apparent enhancements in between.

In this talk, an assessment will be made of the status of meson spectroscopy in the light of the above mechanisms, with several concrete examples of light and heavy-light mesons as well as charmonium and bottomonium states. Some candidates for exotic mesons will be critically discussed.

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