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## Dynamical $O(4)$ -symmetry in the light meson spectrum within the framework of the Regge approach

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Light mesons tend to cluster near certain values of mass. It is interesting to notice that such a degeneracy can be described using dynamical  $O(4)$ -symmetry, like in the hydrogen atom. The meson mass spectrum can be well approximated by linear Regge trajectories of the kind  $M^2 = al + bn_r + c$ , where  $l$  and  $n_r$  are angular momentum and radial quantum number, and  $a, b, c$  are coefficients. Such a spectrum arises naturally within the hadron string models. Using 2024 data from the Particle Data Group, a fit for  $M^2(l, n_r)$  was performed. Our analysis seems to confirm that  $a \approx b$  in the light non-strange mesons, i.e., their masses depend on the sum  $l + n_r$  as prescribed by the hydrogen-like  $O(4)$ -symmetry. Using the semiclassical approximation, we discuss which kind of hadron string models are more favored by the experimental data.

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