

Radial and angular-momentum Regge trajectories: a systematic approach

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In this talk we present the reanalysis done in Ref.[1] of the radial (n) and angular-momentum (J) Regge trajectories for all light-quark states with baryon number zero listed in the 2011 edition of the Particle Data Tables. The parameters of the trajectories are obtained with linear regression, with weight of each resonance inversely proportional to its half-width squared, $(\Gamma/2)^2$. The joint linear-regression analysis in the (n, J, M^2) Regge planes presented in Ref.[1] indicates, at a statistically significant level of 4.5 standard deviations, that the slopes of the radial Regge trajectories are larger from the angular-momentum slopes. Thus no strict universality of slopes occurs in the light non-strange meson spectra.

[1] P. Masjuan, E. R. Arriola and W. Broniowski, arXiv:1203.4782 [hep-ph].

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