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Relativistic two-body calculation of bottomonium radiative decays

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Numerical recovering of the spectrum and wave function of a two-body fermionic relativistic potential system. Estimation in this framework of the widths and branching ratios of some heavy mesons radiative decays.

Summary

In previous work we presented a unified two-fermion covariant model which predicted a very good spectrum for the masses of light and heavy mesons.

By utilising the same model we here analyse the available measured radiative decays of $\Upsilon(3s)$, $\chi_{b2}(2p)$, $\chi_{b1}(2p)$, $\chi_{b0}(2p)$, $\Upsilon(2s)$ and we calculate their branching ratios and their widths.

The values obtained with this method are in a good agreement with the experimental data.

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