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Charmonium transition in electromagnetic and rotational fields

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We study charmonia in electromagnetic and rotational fields in the frame of a potential model. Different from the temperature field which is isotropic and leads to the well-known charmonium dissociation, the electromagnetic and rotational fields break down the radial symmetry, and the competition between strong interaction and electromagnetic and rotational interaction in the direction of Lorentz force makes the charmonia transit from an isotropic bound state of strong interaction with positive binding energy to an anisotropic bound state of electromagnetic and rotational interaction with negative binding energy. The transition seems possible to be realized in high energy nuclear collisions.

Collaboration

Primary author: ZHUANG, Pengfei (Tsinghua University)

Presenter: ZHAO, jiaxing (Tsinghua University)

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