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Charmonium transition in electromagnetic and rotational fields

We study heavy quarkonia in the frame of potential model in electromagnetic and rotational fields. While the rotation itself cannot induce charmonium dissociation, its coupling to the magnetic field can largely enhance or reduce the Lorentz potential and therefore affects the charmonium properties strongly. The charmonium wave function is significantly broadened in the direction of the Lorentz force, which leads to a transition from strong interaction dominated bound state to electromagnetic and rotational interaction dominated bound state. The transition seems possible to be realized in high energy nuclear collisions.

Topics

Heavy Flavour Physics

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