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Gravitational form factors of charmonium on the light front

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We investigate the internal stress of charmonium using the recently derived light-front wave function representation. We employ three "good components"of the energy-momentum tensor, T^{++}, T^{+-}, and T^{12}, to extract the gravitational form factors. The obtained form factors satisfy the known constraints and are used to derive the physical distributions of the system. We discover tantalizing evidence of a tachyonic core within η_c. Additionally, we find an attractive core within χ_{c0}, contradicting the speculation based on mechanical stability that a stable system must have a repulsive core.

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