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The Structure and Stability of Massive Hot White Dwarfs

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We investigate the structure and stability against radial oscillations, pycnonuclear reactions, and inverse beta-decay of hot white dwarfs. We find that the temperature produces important effects on the equilibrium and radial stability of white dwarfs. The stable equilibrium configuration results are compared with white dwarfs estimated from the Extreme Ultraviolet Explorer Survey and Sloan Digital Sky Survey. These massive stars are in the mass region where the general relativity effects are important. Regarding the radial stability of these stars as a function of the temperature, we obtain that the radial stability decreases with the increment of central temperature.

Primary author: MALHEIRO, Manuel (Instituto Tecnológico de Aeronáutica)

Co-authors: Dr NUNES, Silvia (Instituto Tecnologico de Aeronautica); Prof. ARBANIL, José D. V. (Universidad Privada del Norte , and Universidad Nacional Mayor de San Marcos)

Presenter: MALHEIRO, Manuel (Instituto Tecnológico de Aeronáutica)

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