



Compact Charged Stars

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We investigate the possibility that charged compact objects could be the accelerators of high energy cosmic rays. In order to do so, we choose to first solve numerically a system of differential equations describing the structure of charged compact objects, including the generalization of the Tolman-Oppenheimer-Volkoff equation for this class of objects. We assume a polytropic equation of state for the fluid and, for simplicity, a

linear relation between charge density and the fluid energy density. We obtain upper limits for the charge such objects can acquire and study the stability of these equilibrium configurations.

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