

Abstract Submitted  
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**Electrostatic solitary waves in an ultra-relativistic degenerate quantum plasma** A.A. MAMUN, P.K. SHUKLA, Ruhr-Universitaet Bochum — Electrostatic solitary waves in an ultra-relativistic degenerate quantum plasma sphere have been investigated by the reductive perturbation method. The modified Korteweg de-Vries equation has been derived, and its numerical solutions have been analyzed to study the basic features of spherical electrostatic solitary structures in such an ultra-relativistic degenerate quantum plasma sphere. The implications of our results in some interstellar objects, particularly in white dwarf, have been briefly discussed.

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