

The Properties of Pure Neutron Star

CHEN Wei,¹ LI Quan-Guo² and LIU Liang-Gang¹

¹ Department of Physics, Zhongshan University, Guangzhou 510275, China

² Department of Maths, Zhongshan University, Guangzhou 510275, China

(Received: 2001-1-9; Revised: 2001-2-28)

Abstract: For a given equation of state of neutron matter in the relativistic σ - ω model, including the vacuum fluctuation of neutron and σ meson, the properties of pure neutron star are studied. We find that the maximum mass of pure neutron star is $\sim 2.0 M_{\odot}$. At the same time, the influence of incompressibility of the nuclear matter to the properties of neutron star is also studied. We also find that the maximum mass of neutron stars decreases as equation of state of neutron matter becomes softer.

PACS: 26.60.+c, 97.10.Nf, 97.10.Pg, 21.65.+f

Key words: equation of state, neutron star, relativistic σ - ω model

[\[Full text: PDF\]](#)

Close