2003 Vol. 39 No. 5 pp. 603-606 DOI:

Neutron Stars in the Model of Non-linear Realization of SU(2) Chiral Symmetry Spontaneous Breaking

WANG Nan,² SUN Bao-Xi,¹ LÜ Xiao-Fu,^{2,3} and ZHAO En-Guang^{2,4,5}

¹ Institute of High Energy Physics, the Chinese Academy of Sciences, P.O. Box 918(4), Beijing 100039, China
² Institute of Theoretical Physics, the Chinese Academy of Sciences, Beijing 100080, China
³ Department of Physics, Sichuan University, Chengdu 610064, China
⁴ Center of Theoretical Nuclear Physics, National Laboratory of Heavy Ion Accelerator, Lanzhou 730000, China
⁵ Department of Physics, Tsinghua University, Beijing 100084, China (Received: 2002-11-29; Revised:)
Abstract: The properties of neutron stars are studied in a relativistic mean-field model with SU(2) chiral symmetry spontaneous breaking being considered. The calculation results indicate that the effects of the chiral symmetry spontaneous breaking are not negligible.
PACS: 26.60.+c, 95.30.-k, 11.30.Rd

Key words: neutron star, chiral symmetry spontaneous breaking, relativistic meanfield approximation

[Full text: PDF]

Close