Properties of Strange Matter in a Model with Effective Lagrangian

WANG Ping,[1] SU Ru-Keng,[2,3] SONG Hong-Qiu[2,4,5] and ZHANG Li-Liang[4]

[1] Institute of High Energy Physics, The Chinese Academy of Sciences, P.O. Box 918(4), Beijing 100039, China

[2] CCAST (World Laboratory), P.O. Box 8730, Beijing 100080, China

[3] Department of Physics, Fudan University, Shanghai 200433, China

[4] Shanghai Institute of Nuclear Research, The Chinese Academy of Sciences, P.O. Box 800204, Shanghai 201800, China

[5] Center of Nuclear Theory, National Laboratory of Heavy Ion Accelerator, The Chinese Academy of Sciences, Lanzhou 730000, China

Abstract: The strange hadronic matter with nucleons, Λ-hyperons and Ξ-hyperons is studied by using an effective nuclear model in a mean-field approximation. The density and strangeness fraction dependence of the effective baryon masses as well as the saturation properties and stabilities of the strange hadronic matter are discussed.

[Full text: PDF]

Close