

## Equation of State of Nuclear Matter in Chiral $\sigma$ - $\omega$ Model

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**Abstract:** The equation of state of nuclear matter is studied in the 1-loop approximation of chiral linear  $\sigma$ - $\omega$  model. By introducing the density-dependent coupling constants, the problem of tachyon pole in the chiral  $\sigma$ - $\omega$  model is resolved. The 1-loop contributions of  $\sigma$  and  $\pi$  mesons to the nucleon's binding energy are included, while the empirical properties of nuclear matter such as saturation density, binding energy, and incompressibility are well reproduced.

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Key words: equation of state, chiral  $\sigma$ - $\omega$  model

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