Abstract Submitted
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Chiral 3N forces in neutron and nuclear matter KAI HEBELER, TRIUMF — We calculate the energy per particle and pressure in neutron and nuclear matter based on chiral nucleon-nucleon (NN) and three-nucleon (3N) interactions. For this we derive an effective density-dependent NN interaction from the leading order (NNLO) 3N interactions by averaging one particle over occupied states of the Fermi sea. We study saturation properties of nuclear matter, pairing gaps in finite nuclei and infinite nucleonic matter and the impact of 3N forces on properties of neutron stars.

Kai Hebeler
TRIUMF

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