



Contribution ID: 144

Type: Oral communications

## Finite Temperature Description of Fermi Gases with In-medium Effective Mass

*Thursday, March 13, 2025 3:45 PM (15 minutes)*

We investigate Fermi gases at finite temperature for which the in-medium effective mass may not be constant as a function of the density, the temperature, or the chemical potential. We suggest a formalism that separates the terms for which the mass is constant from the terms that explicitly treat the correction due to the in-medium effective mass. We employ the ensemble equivalence in finite matter to treat these different terms. Our formalism is applied in nuclear matter and we show its goodness by comparing it to an exact treatment based on the numerical calculation of the Fermi integrals.

**Authors:** MARGUERON, Jérôme (Institut de Physique Nucléaire de Lyon); DUTRA DA ROSA LOURENÇO, Mariana (Instituto Tecnológico de Aeronáutica); Prof. LOURENÇO, Odilon (Instituto Tecnológico de Aeronáutica)

**Presenter:** DUTRA DA ROSA LOURENÇO, Mariana (Instituto Tecnológico de Aeronáutica)

**Session Classification:** Oral communications