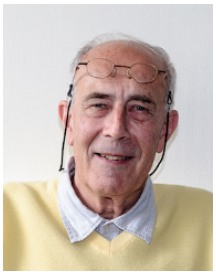

ID de Contribution: **179** Type: **Talk**

# Neutrino-nucleon interactions in dense and hot matter

*mercredi 22 mars 2023 15:00 (30 minutes)*

Neutrinos play an important role in compact star astrophysics: neutrino-heating is one of the main ingredients in core-collapse supernovae, neutrino-matter interactions determine the composition of matter in binary neutron star mergers and have among others a strong impact on conditions for heavy element nucleosynthesis and neutron star cooling is dominated by neutrino emission except for very old stars. Many works in the last decades have shown that in dense matter medium effects considerably change the neutrino-matter interaction rates, whereas many astrophysical simulations use analytic approximations which are often far from reproducing more complete calculations. In this talk I will present a scheme which allows to incorporate improved rates into simulations and show as an example some results for core-collapse supernovae and proto-neutron star cooling.

**Auteur principal:** OERTEL, Micaela (LUTH, Observatoire de Paris)

**Co-auteurs:** PASCAL, Aurélien (Luth, Observatoire de Paris); NOVAK, Jérôme (LUTH, CNRS - Observatoire de Paris); Mlle SULEIMAN, Lami (Laboratoire Univers et Théories); MANCINI, Marco (Université d'Orléans/LUTH-CNRS-Observatoire de Paris)

**Orateur:** OERTEL, Micaela (LUTH, Observatoire de Paris)

**Classification de Session:** Wednesday 14:00-15:30

**Classification de thématique:** Many-body