Master Project MAC

Rapport sur les contributions

https://indico.in2p3.fr/e/23627

ID de Contribution: **1** Type: **Non spécifié**

Inhomogeneous matter: modeling impurities

jeudi 28 mai 2020 15:00 (2 heures)

Orateur: GULMINELLI, Francesca (LPC/Ensicaen)

ID de Contribution: **2** Type: **Non spécifié**

Introduction to the PNJL model

jeudi 11 juin 2020 15:00 (2 heures)

Orateur: HANSEN, Hubert (IPNL)

ID de Contribution: **3** Type: **Non spécifié**

Neutrino reaction rates

jeudi 2 juillet 2020 15:00 (2 heures)

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

ID de Contribution: **4** Type: **Non spécifié**

Crystallization of the neutron star crust

jeudi 16 juillet 2020 15:00 (2 heures)

Orateur: FANTINA, Anthea (GANIL, Caen)

ID de Contribution: **5** Type: **Non spécifié**

Towards an extended meta-modeling of dense matter including phase transitions: the case of quarkyonic matter

jeudi 10 septembre 2020 15:00 (2 heures)

I will present a recent modeling of the baryon/quark phase transition suggesting a smooth cross-over instead of the usual sharp first-order phase transition. This model was first suggested by Reddy and McLeran in 2019 for symmetric and neutron matter, and has recently been extended to asymmetric matter supposing a isoscalar dynamical symmetry between nucleons and quarks. This new model has been incorporated into the nuclear meta-model, including an extension to relativistic kinematics. It presents several features which are interesting to investigate, e.g. peak in the sound speed density profile, or an increase of the compact star radius at the onset of the phase transition.

Orateur: MARGUERON, Jérôme (CNRS/IN2P3 - IP2I - Lyon)

ID de Contribution: **6** Type: **Non spécifié**

From dilute matter to the equilibrium point in the energy-density-functional theory: EFT-inspired functionals applied to neutron drops, nuclei and stellar matter

jeudi 1 octobre 2020 15:00 (2 heures)

Orateurs: GRASSO, Marcella (IJCLab); BURRELLO, Stefano (IJCLab)

ID de Contribution: **7** Type: **Non spécifié**

Neutron rich systems in mean field models

jeudi 22 octobre 2020 15:00 (2 heures)

The discussion is divided into two parts. In the first part, I will try to summarize different correlation studies
concerning the density dependence of symmetry energy and how it affects in the isovector part of the nuclear
interaction and neutron rich physical observables or vice versa. Zero-range relativistic and non-relativistic models
were employed to perform these studies. In the second part, I will try to summarize study of inner crust of neutron
stars (and eventually a unified EoS) in the framework of finite-range Gogny models.

Orateur: MONDAL, Chiranjib (LPC Caen)

ID de Contribution: **8** Type: **Non spécifié**

Partially accreted crust of neutron stars

jeudi 29 octobre 2020 15:00 (2 heures)

Neutron stars in binary systems may accrete matter from their companion star ; so far, only the case of a crust fully replaced by accreted matter has been considered in detailed calculations. However if the star has only accreted a small amount of matter, the crust is not fully but only partially accreted. This could be for example the case of IGR J17480−2446, which could indicate that it has a partially accreted crust which nuclear and thermal properties could be different from the ones of a fully accreted crust. We propose a model of partially accreted crusts for which we follow the originally catalyzed crust as it undergoes an increase in pressure due to the above accreted material falling at the surface. We study different properties of partially accreted crust, additional energy sources and discuss differences with respect to calalyzed and fully accreted crust.

Orateur: SULEIMAN, Lami (LUTH-OBSPM)

ID de Contribution: **9** Type: **Non spécifié**

Energy-density functionals at low density

jeudi 5 novembre 2020 08:30 (40 minutes)

Orateurs: GRASSO, Marcella (IJCLab); BURRELLO, Stefano (IJCLab)

Classification de Session: New-MAC Workshop

ID de Contribution: **10** Type: **Non spécifié**

Mean-field models and neutron-rich systems

jeudi 5 novembre 2020 09:15 (20 minutes)

Orateur: MONDAL, Chiranjib (LPC Caen)

Classification de Session: New-MAC Workshop

ID de Contribution: **11** Type: **Non spécifié**

Transport in heavy-ion reactions

jeudi 5 novembre 2020 10:00 (30 minutes)

Orateur: MALLIK, Swagata Mallik (LPC Caen)

Classification de Session: New-MAC Workshop

ID de Contribution: **12** Type: **Non spécifié**

Constraints on the nuclear symmetry energy from asymmetric-matter calculations with chiral NN and 3N interactions

jeudi 5 novembre 2020 10:35 (30 minutes)

Orateur: SOMASUNDARAM, Rahul (IP2I Lyon)

Classification de Session: New-MAC Workshop

ID de Contribution: **14** Type: **Non spécifié**

Modelling impurities and pasta phases

mercredi 4 novembre 2020 13:00 (20 minutes)

Orateur: GULMINELLI, Francesca (LPC/Ensicaen)

Classification de Session: New-MAC Workshop

ID de Contribution: **15** Type: **Non spécifié**

Crystallisation of neutron-star crust

mercredi 4 novembre 2020 13:20 (20 minutes)

Orateur: FANTINA, Anthea Francesca ({CNRS}UPR3266)

Classification de Session: New-MAC Workshop

ID de Contribution: **16** Type: **Non spécifié**

Statistical treatment of nuclear clusters

mercredi 4 novembre 2020 13:40 (20 minutes)

Orateur: MALLIK, Swagata Mallik (LPC Caen)

Classification de Session: New-MAC Workshop

ID de Contribution: **17** Type: **Non spécifié**

Electron-capture rates

mercredi 4 novembre 2020 14:00 (30 minutes)

https://ui.adsabs.harvard.edu/abs/2020arXiv200608803R/abstract

Orateurs: KHAN, Elias (IPN Orsay); FANTINA, Anthea Francesca ({CNRS}UPR3266)

Classification de Session: New-MAC Workshop

ID de Contribution: **18** Type: **Non spécifié**

ROUND TABLE

mercredi 4 novembre 2020 15:00 (1 heure)

theory within Virgo: present status
MAC report
ANR submission
miscellanea

Classification de Session: New-MAC Workshop

ID de Contribution: **19** Type: **Non spécifié**

Partially accreted neutron-star crust

jeudi 5 novembre 2020 13:00 (1 heure)

Orateur: SULEIMAN, Lami (LUTH-OBSPM)

Classification de Session: New-MAC Workshop

ID de Contribution: **20** Type: **Non spécifié**

Neutrino reaction rates

jeudi 5 novembre 2020 14:30 (20 minutes)

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

Classification de Session: New-MAC Workshop

ID de Contribution: **21** Type: **Non spécifié**

Proto-neutron star modes and nuclear matter equation of state

jeudi 5 novembre 2020 14:50 (20 minutes)

Orateur: NOVAK, Jérôme (LUTH, CNRS - Observatoire de Paris)

Classification de Session: New-MAC Workshop

ID de Contribution: **22** Type: **Non spécifié**

TBA

jeudi 5 novembre 2020 15:10 (20 minutes)

Orateur: PASCAL, Aurélien (Luth, Observatoire de Paris)

Classification de Session: New-MAC Workshop

ID de Contribution: **23** Type: **Non spécifié**

PNJL model

vendredi 6 novembre 2020 08:30 (20 minutes)

Orateur: HANSEN, Hubert (IPNL)

Classification de Session: New-MAC Workshop

ID de Contribution: **24** Type: **Non spécifié**

Quarkyonic matter

vendredi 6 novembre 2020 08:50 (20 minutes)

Orateur: MARGUERON, Jérôme (CNRS/IN2P3 - IP2I - Lyon)

Classification de Session: New-MAC Workshop

ID de Contribution: **25** Type: **Non spécifié**

TBA

vendredi 6 novembre 2020 09:10 (20 minutes)

Orateur: CHANFRAY, guy (IPN Lyon)

Classification de Session: New-MAC Workshop

ID de Contribution: **26** Type: **Non spécifié**

TBA

vendredi 6 novembre 2020 09:30 (20 minutes)

Orateur: SOMASUNDARAM, Rahul (IP2I Lyon)

Classification de Session: New-MAC Workshop

ID de Contribution: **27** Type: **Non spécifié**

TBA

vendredi 6 novembre 2020 09:50 (20 minutes)

Orateur: GUVEN, Hasim (IPN-Orsay)

Classification de Session: New-MAC Workshop

ID de Contribution: **28** Type: **Non spécifié**

TBA

vendredi 6 novembre 2020 10:10 (20 minutes)

Orateur: Dr GRAMS, Guilherme (ip2i)

Classification de Session: New-MAC Workshop

ID de Contribution: **29** Type: **Non spécifié**

TBA

vendredi 6 novembre 2020 10:30 (20 minutes)

Orateur: MONDAL, Chiranjib (LPC Caen)

Classification de Session: New-MAC Workshop