Contribution ID: **216** Type: **Talk in the parallel session**

Elastic properties of the NS crust in the OCP approximation.

Wednesday, 7 July 2021 12:10 (20 minutes)

We calculate the elastic properties of the outer crust of Neutron Stars (NSs) under the approximation of the one component plasma (OCP) in the high density limit. An electron sector under a degenerate Fermi sea is considered. This is of interest for the modelling of the gravitational wave signal strength emitted in the violent events of NS mergers and NS continuous emission. We use Molecular Dynamics simulations at finite temperature with Ewald sums and extract the relevant elastic quantities such as the stress tensor components for the long range multipolar expansion.

Primary authors: BARBA GONZÁLEZ, David (Universidad de Salamanca); Dr ALBERTUS, Conrado (University of Salamanca, Spain); PEREZ-GARCIA, M. Angeles (Department of Fundamental Physics, University de Salamanca, Spain)

Presenter: BARBA GONZÁLEZ, David (Universidad de Salamanca)

Session Classification: Dense Matter in Compact Stars

Track Classification: Neutron Stars: Dense matter in compact stars