



Contribution ID: 139

Type: Poster

## Competition of kaon and hyperon mixture in nuclear matter

**Click here to download the template:** <https://agenda.infn.it/materialDisplay.py?materialId=2&confId=5235>

It is well-known that mixture of hyperons and kaons in nuclear matter cause softening of matter due to a strong attraction or increased number of degree of freedom. This softening is one of the most serious problems in nuclear physics since one has to sustain an observed heavy neutron star with twice the solar mass.

On the other hand, we have investigated the competition of kaon and hyperon mixture in nuclei [1]. Then we found that all the kaons put in nuclei are absorbed in nucleons and converted into hyperons.

In this presentation we discuss the competition between kaons and hyperons in nuclear matter in the core of neutron stars.

We also discuss the effect of degenerate electrons and inhomogeneous structures of matter.

1. T. Muto, T. Maruyama, and T. Tatsumi, EPJ Web Conf. 73 (2014) 05007

**Primary author:** Dr MARUYAMA, Toshiki (Japan Atomic Energy Agency)

**Co-authors:** Dr YASUTAKE, Nobutoshi (Chiba Institute of Technology); Prof. MUTO, Takumi (Chiba Institute of Technology); Dr TATSUMI, Toshitaka (Kyoto University)

**Presenter:** Dr MARUYAMA, Toshiki (Japan Atomic Energy Agency)

**Track Classification:** Nuclear Astrophysics