

Direct observation of exotic matter in neutron stars

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In order to investigate the matter in neutron stars, we purchased twenty samples of neutron stars at a food market in Japan and investigated their inner structure. As is well known, most of them had a shell structure with a white crust made of rice cake and a dark-colored core made of sweet bean paste [1] as shown in Fig. 1 (left). Surprisingly, however, we observed a few samples with exotic matter as the inner core (see Fig. 1 (right)). Through our complicated data analysis, the exotic matter was found to be significantly sour and sweet with a strange flavor similar to strawberry.

By combining the present result with a historical record found in old literature, it is suggested that the observed new type of neutron stars first appeared at a Japanese cake shop in the middle of 1980s and explosively spread in several years [2]. Our observation also offers new insight into the relevance of new flavors in unknown dense matter.



Figure 1: Observed inner structure of neutron stars commercially available in a market. Some of them contain exotic matter with a strange flavor inside (right).

References

- [1] G. Bulbasaur, O. Pidgey and M. Squirtle, J. Pokémon Training **41** (2016) 103.
- [2] S. Oak, Proc. 1st Int. Conf. on “Pokémon Go”, November 21-23 (2016), Tohoku University, Sendai; to be published.