

# 725<sup>th</sup> ASRC Seminar

Date: 13:00~ Fri., AUG 10

Location: 302 Meeting Room, ASRC Bldg.

Speaker: Dr. Cheng-Jun Xia

(Ningbo Institute of Technology, Zhejiang University)

Title: Interface Effects of Strange Quark Matter with  
Density Dependent Quark Masses

## Abstract:

We study the interface effects in strangelets adopting mean field approximation (MFA). Based on equivparticle model, the linear confinement and leading-order perturbative interactions are included with density dependent quark masses. By increasing the confinement strength, the surface tension and curvature term of strange quark matter (SQM) become larger, while the perturbative interaction does the opposite. For those parameters constrained according to the strange star, the surface tension is , while unstable SQM indicates a slightly larger surface tension. The obtained results are then compared with those predicted by the multiple reflection expansion (MRE) method. In contrast to the bag model case, it is found that MRE method overestimates the surface tension and underestimates the curvature term. To reproduce our results with MRE method, we introduce dampening factors to the density of states.

なお、今回のセミナーは、第74回「原子核ハドロン物理セミナー」  
を兼ねております。セミナー内容は  
[http://silver.j-parc.jp/hadron/hadron\\_seminar/index.html](http://silver.j-parc.jp/hadron/hadron_seminar/index.html)  
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