

CLUSTER STRUCTURES IN LIGHT NUCLEI

H. Horiuchi

Department of Physics, Kyoto University, Kyoto 606-8502, Japan

Clustering in neutron-rich nuclei is discussed. To understand the novel features (1,2,3) of the clustering in neutron-rich nuclei, the basic features of the clustering in stable nuclei (4) are briefly reviewed. In neutron-rich nuclei, the requirement of the stability of clusters is questioned and the threshold rule is no more obeyed. Examples of clustering in Be and B isotopes (4,5) are discussed in some detail. Possible existence of novel type of clustering near neutron dripline is suggested (1).

References:

- (1) H. Horiuchi, Y. Kanada-En'yo, A. Doté, and M. Kimura, *Proc. Int. Symp. on Models and Theories of the Nuclear Mass*, Wako (1999), edited by N. Tajima, and S. Yamaji, RIKEN Review No.26 (RIKEN, 2000), p.36.
- (2) Y. Kanada-En'yo, H. Horiuchi, and A. Ono, *Phys. Rev. C* **52**, 628 (1995); Y. Kanada-En'yo and H. Horiuchi, *Phys. Rev. C* **52**, 647 (1995); Y. Kanada-En'yo, H. Horiuchi, and A. Doté, *Phys. Rev. C* **60** 064304 (2000).
- (3) H.Horiuchi, *Proc. NATO Advanced Study Institute on Correlations and Clustering Phenomena in Subatomic Physics*, Dronthen (1996), edited by M. N. Harakeh, J. H. Koch, and O. Scholten, NATO ASI Series B: Physics Vol.359 (Plenum Press, 1997), p.29.
- (4) H.Horiuchi and K.Ikeda, *Cluster Model of the Nucleus*, International Review of Nuclear Physics, Vol.4 (ed. T.T.S.Kuo and E.Osnes, World Scientific, Singapore, 1986), pp.1 ~ 258.
- (5) H. Horiuchi, T. Maruyama, A. Ohnishi, and S. Yamaguchi, *Proc. Int. Conf. on Nuclear and Atomic Clusters*, Turku (1991), edited by M. Brenner, T. Lönnroth and F. B. Malik, (Springer; New York, 1992), p.512.



HU0000941