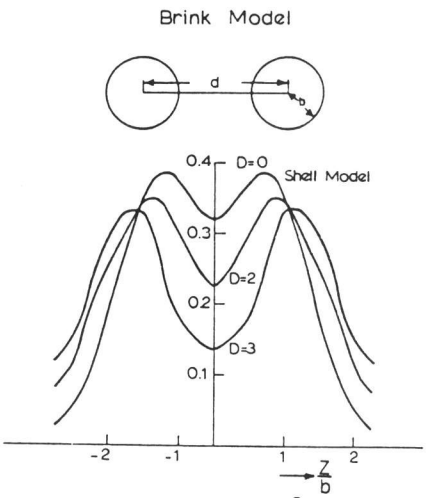
Introductory Remarks to the Special Session

A. Arima

Department of Physics, University of Tokyo
Tokyo 113, Japan

We are going to discuss the subject "What is a Cluster?" in this session. Before we start, I would like to say a few comments. (1) Clusters such as alpha particles in nuclei overlap very much with each other. Because of the Pauli principle, the structure of those clusters is strongly modified. (2) Because nuclei are quantum mechanical, even shell model wave functions such as that of ^{8}Be can contain a certain probability of 2α components. Indeed, a figure from my old talk in Munich shows that there are two peaks which correspond to two α's in the density distribution of nucleons in the simple shell model wave function of ^{8}Be. I would like to show this figure here, since some people seem to be surprised by rediscovering this fact.

Now let us ask Professor R. Betts and Professor K. Ikeda to tell us their views concerning "What is a Cluster?".



The density distribution for ^{8}Be along Z-axis. b = 1.31 f m.

This figure is taken from the Proc. of the Int. Conf. on Nuclear Physics, Munich, 1973, Vol. 2, p.192.