

Report of the mini Workshop on " Hunting Super Deformed States in Light Nuclei"

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The open session of the above workshop was held from 13:30 to 19:00 on December 17, 2009 at the discussion room in the 3rd floor of the RCNP main building.

The 1st speaker, Prof. Matsuyanagi introduced us kindly the present status of the theoretical model calculation and the ambiguity of their predicted energy levels. He showed that the excitations of SD band for ^{40}Ca and ^{40}Ar are 8p-8h excitation, whereas the SD band in ^{32}S is 4p-4h excitation. He also stressed the importance of the SD band search in ^{32}S , since ^{32}S is a magic nucleus in Nilsson orbit model.

The 2nd speaker Prof. Ideguchi reported his recent work on the SD band hunting in light nuclei. In addition to his finding for the SD band of ^{40}Ca , he showed the recent finding for the SD band of ^{40}Ar measured this year at JAERI in Japan. Although there reported many SD bands in the world, they were all observed at the laboratory outside Japan. We think this is the 1st observation of SD bands in Japan.

The 3rd speaker Dr. Itoh reported the measurement performed at RCNP, using the GRAND RAIDEN spectrometer. He reported how we can classify low spin excitations according to their angular momentum transfers. In the discussion of Dec. 17 we have concluded that we need to check all other states below 10 MeV excitation energy carefully and to publish our data together with the data of giant resonances on ^{32}S .

After the open session of the workshop on Dec. 17, a careful check on the nuclear levels of ^{32}S below 10 MeV excitation energy was continued on the 18th, 19th, 20th and 21st of December. And the conclusion of this mini workshop was that the 0^+ state at 10.5 MeV remained as a possible SD band head.