

JUSTIPEN trip report  
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I was in Japan under the JUSTIPEN program from May 6 till May 30, 2008. I spent most of that time at the RIKEN campus in Wako-Shi. In addition, I visited the Yukawa Institute of Theoretical Physics, Kyoto University during May 22-May 25, 2008 using a support from the JUSTIPEN program.

During my stay at RIKEN I gave a seminar “*The next frontier: hyperdeformation*” where our recent results on the study of hyperdeformation within the cranked relativistic mean field theory in the  $Z = 40 - 58$  part of nuclear chart were presented. In addition, I gave a RIKEN nuclear theory group seminar “*Few words about time-odd mean fields*”. On May 23, I gave a seminar at Yukawa Institute of Theoretical Physics, Kyoto University entitled “*Time-odd mean fields in density functional theories*”. These seminars created a considerable interests and lively discussions.

I have discussed a number of topics such as high spin hyperdeformation, time-odd mean fields in relativistic and non-relativistic density functional theories and octupole vibrations in light superdeformed nuclei with Profs. Kenichi Matsuyanagi, Takashi Nakatsukasa and Shouziro Mizutori. With Prof. Takaharu Otsuka we had a very interesting discussion on the role of tensor forces and 3-nucleon interactions. Together with Prof. Takashi Nakatsukasa we decided to establish a collaboration on the implementation of the finite amplitude method for the solution of the random phase approximation based on the relativistic mean field theory. The work in that direction has started and we plan to continue it at a reasonable pace. I had also an interesting discussion with Dr. Eiji Ideguchi concerning his recent measurements of high-spin data in  $^{40}\text{Ca}$  and  $^{107}\text{In}$ ; we established a collaboration aiming on the interpretation of these data.

I would like to thank very much my Japanese colleagues (and especially Prof. Naoyuki Itagaki, Prof. Takashi Nakatsukasa and Prof. Yoshiko Enyo) for their exceptional hospitality and their help in the organization of my visit.