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JUSTIPEN Trip Report
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I was in Japan under the JUSTIPEN agreement from May 31 to June 27, 2007. I spent most of this time at Riken in Wako-Shi. During my stay I had many discussions with Japanese colleagues and other visitors on actual topics in nuclear structure theory. As examples I mention in particular the discussions with Naoyuki Itagaki on antisymmetrized molecular dynamics, and learning from Heiko Scheit about his precision experiment on bremsstrahlung in alpha decay. The exchange with Itagaki was particularly fruitful, and we have started to collaborate on antisymmetric molecular dynamics for Fermi systems with a large scattering length.

At Riken, I gave a seminar on *Coupled-cluster theory with three- nucleon forces*, and a JUSTIPEN-EFES seminar on *Chaos in the nuclear shell model*. These seminars took place in an informal setting and allowed for lively exchanges of ideas. The JUSTIPEN-EFES workshop on June 23 brought together JUSTIPEN visitors and several theorists from several institutes in Japan. Presentation focused on ab-initio methods for p-shell and sd-shell nuclei, determination of the effective interaction in the f p-gds model space, and experimental results for oxygen isotopes at the neutron drip line. The workshop gave me the opportunity to better understand my colleagues' approach to nuclear structure, and to discuss future directions.

Besides my stay at Riken, I participated in two scientific meetings outside Wako-Shi. On June 6, I presented a poster (entitled *Coupled cluster theory for nuclei*) at the *International Nuclear Physics Conference* in Tokyo. From June 11-14, I participated in the workshop *Nuclear Structure 07* (at the Yukawa Institute for Theoretical Physics) in Kyoto and gave a presentation entitled *Energy functionals for the pairing Hamiltonian*. These meetings gave me the opportunity to learn about the newest developments in the field and to have discussions about various topics.

I gratefully acknowledge the excellent working and living conditions at Riken which provided a stimulating and fruitful atmosphere for my research.