

Korea Atomic Energy Research Institute

Partner contact person: [Y.-J. Rhee](#)

Profile: **Laboratory for Quantum Optics (LFQO)** of **KAERI** has been devoted to the studies of high resolution laser spectroscopy for more than two decades, investigating atomic structures and transitions of high Z materials such as lanthanide elements. Both experimental and theoretical approaches have been pursued in the high precision atomic spectroscopy for the applications to laser isotope separation. As a result of the investigation an atomic and molecular database system of which the URL is <http://amods.kaeri.re.kr> has been established and one part of it is included in the search path of GENIE engine of IAEA. Since 1997, KAERI has been participating in the International Data Center Network organized and managed by the IAEA. For the theoretical study of atomic structure and transitions, MCDF relativistic ab initio atomic code is mostly used. Recently, for the application to fusion research, computational studies of transition lines of W, Mo, Xe, Li, Be, C, etc have been carried out. Computer simulation of high density plasma physics has become one of the current research topics in LFQO.

Role of KAERI in Project: Extension of VAMDC deployment towards Asia/Korea, as well as participation in the policy/strategy development for VAMDC.

Key Persons:

Y.-J. Rhee, Doctor

Expertise: Specialist in theoretical atomic spectroscopy and high density plasma physics. He is also capable of establishment and management of AM database system. He is recently participating in several nuclear fusion projects.

D.-H. Kwon, Doctor

Expertise: Theoretical studies on atomic spectroscopy, collisional processes, and plasma simulations.

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