

# Attosecond Laser Source for Multi-Disciplinary Application

Z WEI<sup>1</sup>

<sup>1</sup>*Laboratory of Optical Physics, Institute of Physics, No.8, South 3 rd Street, Zhong Guan Cun, Beijing, China.*

*Contact Phone: +86 18611185763*

Contact Email: zywei@iphy.ac.cn

With the remarkable progresses in ultrafast laser technology, the shortest laser duration has been pushed to sub-100as scale, which opened the door for explore dynamics of electron motion, and trigger the emerging applications in condensed matter physics, atom and molecule physics, chemical reaction *etc.* To study the dynamic properties of matter science, we have developed a series of ultrafast laser technologies such as generation of few cycle laser pulses, amplification toward high power and frequency conversion toward infrared and XUV. Pulse duration shorter than 86 as was obtained. A Synergetic Extreme Condition User Facility (SECUF) was established with ultrafast system, which include attosecond laser beams and has opened for international users to carry out multi-disciplinary application researched combined with ARPES, PEEM and Coltrims. In this talk, I will introduce the specifications and functions of the facility with attosecond laser beams, new results on laser pulse and application on matter physics will be reported.