

Preface

The 4th Yamada Symposium on Advanced photons and Science Evolution (YS4-ASPE2010) was held at JICA Osaka in June 14-18, 2010.

The present proceedings of the ASPE2010 symposium presents the scientific program, the abstracts and pdf files of the papers presented at the scientific plenary and poster sessions, and the participant list.

The Yamada symposium (YS) started on the occasion of the 25th anniversary of the Yamada Science Foundation. YS aims at discussions on newly developing science frontiers and future perspectives among active individual scientists over generations and fields to promote new developments of science frontiers.

The first one was YS1 NDM03 (Neutrinos and Dark Matter in Nuclear Physics) at Nara in 2003, which was organized by one of the APSE organizers and his colleagues. Since then, NDM03 was followed by NDM06 in Paris, and NDM09 in Madison. The second one, YS2, was held on “Key Natural Organic Molecules in Biological Systems” at Awaji in 2005, and the third one, YS3, on “From Chaos to Cosmos, Integration in Biological Systems” at Shonan in 2007.

The present YS4 APSE2010 is one of the series of the YS. It was proposed and approved in Feb. 2009. APSE2010 aims at active discussions on photon science frontiers and science evolution among scientists in various fields of advanced photons.

Recently theoretical and experimental developments of advanced photon physics, advanced photon probes and advanced photon spectroscopy have been made on various fields of physics in a wide energy range from meV to GeV. Then it is quite timely and interesting to discuss recent progresses and perspectives of advanced photon physics and science evolution.

The subjects discussed in the present APSE symposium include quantum many body physics and photon science, terahertz photon physics and EM meta-material, laser photon physics, synchrotron radiation frontiers and material science, photo-electron spectroscopy, atomic and nuclear photon spectroscopy, medium and high energy photons from lasers scattered off GeV electrons for nuclear and hadron physics, advanced photon spectroscopy for particle physics, and advanced photons for molecule science and related subjects.

From 13 countries over the world, 67 active scientists, including 3 accompanying parsons, participated in APSE2010.

We are very grateful to all the participants for presenting excellent papers and for joining discussions. Thanks to them. APSE was very productive and enjoyable even though the subjects are mostly interdisciplinary and the participants are from various fields of science. We would like to express our cordial thanks to all IAC (International Advisory Board) distinguished scientists from 13 countries for valuable suggestions.

The host institute is YSF, and secretary is Ms Yuka Mototsuji YSF. We are indebted to RCNP and ILE, Osaka University, and JASRI Spring-8 for their corporations and to young colleagues and students at Osaka and Kyoto Universities for their volunteer works to make APSE run well.

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