

SUMMARY

Photon Factory ISAC Light Source Subcommittee Meeting, February, 2010

Presented by E. Gluskin, Subcommittee Chairperson

At the PF ISAC Meeting, June 15, 2010

***ISAC Light Source Subcommittee members,
25-26 February, 2010***

E. Gluskin – Advanced Photon Source, Chair
R.Hettel – SLAC
T.Hori – RIKEN
H.Ohkuma - SPring-8
J.Pflueger – European XFEL

ISAC LS Subcommittee Executive Summary



- LSS emphasizes the remarkable performance of accelerator systems at the PF - one of the world first dedicated synchrotron radiation (SR) sources. The record high and very consistent mean time between failures (MTBF), around 300 hours, is the trademark of the PF and is the gold standard for all SR sources around the world.
- The staff of the Accelerator Division VII should be complimented for the diligence and dedication to their duties that result in the supreme reliability of the PF accelerators.
- Recent full implementation of the top-up mode strongly benefits the PF user community by significant improvements of the x-ray source stability.
- The AD VII has developed and operates high-quality insertion devices. It continues to introduce novel radiation sources such as the 10 Hz polarization switching double undulator.

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- LSS is extremely impressed with the progress of the compact energy recovery linac (cERL) project. Particularly the Subcommittee wants to compliment the collaborative effort of multiple institutions in the development of the DC gun and congratulate the team with the recent record performance results of this gun. Also, this success is the direct result of the integration of the PF accelerator division into the KEK Accelerator Laboratory.
- The 5-GeV ERL x-ray source is a very attractive option for the PF future, and, as presented, is in the early stage of design. The Accelerator Laboratory and AD-VII are collaborating with several institutions and considering an innovative expansion of the design that would incorporate a x-ray free electron laser – oscillator type (XFEL).

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- The KEK-X is another very desirable and attractive option for a future x-ray source at the KEK. Both 4-GeV and 7-GeV storage rings of the Super KEKB factory are being considered for the x-ray source, which would bring the PF in line with the best performance of upgraded third generation x-ray sources around the world.
- LSS recognizes this visionary idea and brings attention to several very significant and exciting challenges in the design and integration of accelerator systems that would perform at the state-of-the-art level for high-energy physics and SR experiments. Subcommittee recommends further detailed studies of all aspects of the KEK-X proposal.

June 15, 2010