TWEPP 2017 Topical Workshop on Electronics for Particle Physics



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LCLS-II: A High Repetition Rate X-Ray Laser Facility

Monday 11 September 2017 14:00 (45 minutes)

The Linac Coherent Light Source (LCLS) is in the midst of a major upgrade called LCLS-II [1]. This upgrade will add a 4 GeV continuous-wave superconducting electron accelerator to the LCLS complex, delivering a 10,000-fold increase in repetition rate and average x-ray brightness. Currently scheduled to achieve first light in 2020, LCLS-II will enable a broad range of experiments over a 0.2 to 5 keV photon energy range presently not possible to date [2]. These experiments will be conducted in three newly developed x-ray instruments. The scope, projected capabilities and status of the LCLS-II project and associated x-ray instruments will be presented as well as exemplary science applications.

References

[1] J. N. Galayda, Proceedings of the 5th International Particle Accelerator Conference (IPAC'14), 15-20 June 2014, Dresden, Germany

[2] New Science Opportunities Enabled by LCLS-II X-ray Lasers, SLAC-R-1053 [2015], https://portal.slac.stanford.edu/sites/lcls_public/Dou

Summary

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Session Classification: Invited Talk