

**2ndINTERNATIONAL CONFERENCE ON COMPUTATIONAL
AND EXPERIMENTAL SCIENCE AND ENGINEERING
(ICCESEN-2015)**

14-19 October 2015, ANTALYA-TURKEY

The Iranian synchrotron Light Source, A New Light on Science in Iran

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Abstract

Iranian Light Source Facility, ILSF, is a 3rd generation light source under design and construction with a current of 400 mA which will be built on a land of 50 hectares area in city of Qazvin, 150 km West of Tehran, Iran. The feasibility studies for the project started in 2010 during which executive and steering committees were formed. In 2012 a preliminary conceptual design report was completed together with the site selection for the project. Site selection studies including geotechnical measurements and ground vibration measurement have been carefully performed. After a massive staff training period during 2012-2014, we have now been completed. The accelerator design was successfully examined in our first Machine Advisory Committee , MAC, attended by 6 distinguished accelerator scientists from 6 light source laboratories across the world in June 2015. The ILSF accelerators are composed of a pre-injector system, Linac to booster (LTB) transfer line, booster synchrotron, booster to storage ring (BTS) transfer line and storage ring of 528 meter circumference and an emittance of 0.4 nm-rad.

We have developed, as part of our R&D program, dipole and quadrupole magnets , highly stable magnet power supplies, a 5 kW RF solid state amplifier at 500 MHZ, Cavities ,diagnostics systems etc. for the storage ring.

The project is funded by the Iranian government and is expected to be completed by 2025.

Keywords: *Synchrotron, Iranian Light Source Facility*

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