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First Five Years of OPAL, the new Australian Research Reactor

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Abstract

The OPAL Research Reactor, constructed by the Argentinian company INVAP S.E., is one of the newest high-performance neutron sources in the world. Fuel was loaded into the OPAL reactor in August 2006, and full power (20MW) achieved in November 2006. The formal user program commenced in 2007, and fully analysed data sets have now been taken on all seven of the initial suite of instruments. At the time of writing, approximately 140 research papers have been published with neutron data from OPAL, and the 9th proposal round is open. 6 further instruments are in various states of construction, and substantial additional investment is also being made in sample-environment, extra instrumental options, polarised-neutron technology, and both chemical and bio-deuteration facilities. An update will be given on the status of OPAL, the performance of its thermal and cold neutron sources and instruments, together with a selection of recent scientific results and future plans.