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The upgrade of the superconducting wiggler magnet installed at the ELETTRA storage ring.

Content

The Superconducting multipole Wiggler (SCW) originally manufactured by BINP (Budker institute of nuclear physics at Novosibirsk) was installed at the ELETTRA storage ring (Triest, Italy) in 2002. In 2013 upgrade of wiggler cryostat was made by BINP to reduce liquid helium consumption. From June 2013 to January 2017 the wiggler functioned without problems of helium consumption (although it quenched 12 times). In January 15, 2017 while there were preparations for setting the accelerator at 2.4 GeV for the users the SCW was damaged by quench. The upgrade of wiggler magnet was proposed by BINP. The magnet was reconstructed in 2017. The new coils have been made with reduced quantity of winds. This coil design is more close to optimum from point of view current-field relationship for superconducting wire and also decreases stored energy. In January 2018 the reconstructed magnet has been assembled into cryostat and installed at the ELETTRA storage ring.

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