Abstract Submitted
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Soviet Accelerating and Storage Complex (UNK) DMITRI KOTCHETKOV, University of Hawaii at Manoa — During 1980s and 1990s a proton-proton collider named the Accelerating and Storage Complex (UNK) was under construction in the Soviet Union and then in Russia. The collider was supposed to be built in a 21 km long underground tunnel at the site of Institute for High Energy Physics in Protvino. With a design collision energy of 6 TeV and a luminosity of 4 x 10^{34} $cm^{-1}s^{-1}$, the UNK was planned to be become a primary energy frontier facility to further expand national high energy physics program, as well as to strengthen global scientific outreach and collaborations. The UNK was to be realized in 3 rings. The first ring, built from conventional magnets, was planned to be used for fixed target experiments with proton beam energies up to 600 GeV, and as an injector to the second and the third rings. The second and the third superconducting magnet rings were designed for either 3 TeV beam energy fixed target experiments or 6 TeV collider experiments. The top magnetic field of 1 T of the first ring was to be supplied by 2196 dipoles and 503 quadrupoles. Each of the second and the third superconducting rings would have needed 2192 dipoles and 474 quadrupoles to reach the top field of 5 T. "Neptun" experiment was supposed to be a centerpiece of the initial physics program at the UNK. 1560 conventional dipoles and 473 conventional quadrupoles were fabricated as a part of the first ring infrastructure. Several test versions of the superconducting magnets were produced, as well. While the tunnel and a proton injection line were completed by 1995, the reduction of Russian federal funding for high energy physics halted the project at the end of 1990s.

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