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First Megascience Experiment at Fermilab: Through Hardship to Protons VITALY PRONSKIKH, VALERIE HIGGINS, Fermi National Accelerator Laboratory — The E-36 experiment on the small angle proton-proton scattering that officially started in 1970, making use of the Main Ring beams and giving rise to a chain of similar experiments that continued after 1972, was the first experiment at the newly built NAL. It was also the first US/USSR collaboration in particle physics as well as the first experiment that can be confidently characterized as megascience. The experimental data were interpreted as an indication of the pomeron, a quasi-particle that had been named after the Soviet theorist I. Pomeranchuk. The idea of the experiment can be traced back to the Rochester conference held in 1970 in Kiev where two American and Soviet physicists met to develop it and later acquainted NAL director Robert Wilson with it. Wilson enthusiastically set the stage for the experiment at NAL. Involving a gas-jet target built at the Dubna machine shop of Joint Institute for Nuclear Research and brought to Batavia, Illinois, the experiment established cooperation between the US and the Soviets in the spirit of their contemporary Apollo-Soyuz space program, thus breaking the ice of the Cold War from within high-energy physics. In this talk based on the Fermilab Archives and interviews, we discuss the financial and administrative obstacles raised by Soviet officials that the Russian collaborators had to overcome, interinstitutional tensions among the Soviets that accompanied the collaboration, NAL culture as well as the roles of scientists in megascience as ambassadors of peace.

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