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Measurement of single-spin asymmetry for charged pions in the SPASCHARM experiment at U70 accelerator.

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The SPASCHARM experiment at U70 is ready to study spin effects in inclusive production of various particles on frozen polarized proton target. The project is aimed at studying a fundamental problem of modern particle physics, such as the mechanism of spin asymmetries in the production of hadrons. The research is planned to be conducted in the kinematic domain of nonperturbative Quantum Chromodynamics, which is difficult for the theory (the region of confinement or "non-flight" of quarks). In contrast to most polarization experiments, the SPASCHARM wide-aperture precision spectrometer can measure both charged and neutral particles at a wide solid angle and full azimuthal angle in the fragmentation region of a negative particle beam with an energy of 28 GeV. The specific task of this study is to measure experimentally single-spin asymmetry in inclusive production of charged pions on the beam fragmentation region. We present the status of the experiment and the analysis of data collected during testbeam and first physical data taking run.

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