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Spin Physics Detector at the NICA accelerator complex

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The Spin Physics Detector (SPD) is designed as a universal 4π detector with advanced tracking and particle identification for studying the spin structure of the proton and deuteron and other spin-related phenomena. The detector will be installed at one of the two beam intersection points of the NICA collider, which is currently at the final stage of construction at JINR. A luminosity of $10^{32} \text{ cm}^{-2} \text{ s}^{-1}$ can be achieved in collisions of pp beams at the maximum interaction energy of 27 GeV. Both longitudinal and transverse beam polarizations will be available. The SPD detector will be equipped with silicon vertex and straw-tube detectors for tracking, time-of-flight and Cherenkov systems for particle identification, an electromagnetic calorimeter, and a range system for muon identification. A solenoidal magnetic field of 1 T will be provided by a superconductive magnet. The presentation will give an overview of the evolving detector design. The commissioning of the detector is divided into two stages. The data taking of the first stage is planned for the end of this decade.

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