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The absolute polarimeter APol for the NICA collider

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Conceptual design of the absolute polarimeter APol with an internal polarized atomic hydrogen/deuterium jet target for NICA collider is presented. It is proposed to install the polarimeter into the "warm"gap of the collider ring arc. The polarized jet will cross both accelerated beams. The jet target is based on the classical atomic beam source principle. Expected target thickness of the jet in the interaction regions is 1012 atom/cm2. Polarization of the atomic hydrogen/deuterium jet will be measured by Breit-Rabi polarimeter placed under collider ring into a jet catcher volume. APol will utilize a reaction of elastic scattering of identical nuclei (protons or deuterons).

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