Семинар

среда 24 октября,
11-00
Конференц-зал ЛЯП

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"On the possibility to study antiproton production at the SPD detector at NICA collider for dark matter search in astrophysical experiments."

Dark matter is an important component of the Standard model of cosmology but its nature is still unknown. One of the most common explanations is that the dark matter consists of weakly interacting massive particles (WIMPs), supposed to be cold thermal relics of the Big-Bang and to build up the galactic dark haloes. Indirect search of the dark matter could be performed via study of an anomalous antiproton component in cosmic rays originating from possible annihilation of the dark matter pairs in the galactic halo, on top of the standard astrophysical production. The measurements performed by the AMS-02 and PAMELA spectrometers have shown that limited knowledge of antiproton production cross-section in p-p, p-D, p-He and He-He collisions is one of the main uncertainties of background subtraction. The planned SPD experiment at the NICA collider could provide a precision measurement of antiproton yield in p-p and p-D collisions at the energy scale from the threshold to 26 GeV.