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Current status and results of the experiments with CMD-3 detector at VEPP-2000

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The VEPP-2000 e⊠e⊠ collider has been operating at BINP (Novosibirsk) from 2010 in the center-of-mass energy range from 0.3 to 2 GeV. The project luminosity of this machine, exploiting the idea of the round beams, has to amount to 1032cm-2s-1. By now the luminosity up to 5⊠1031cm-2s-1 was achieved. Two detectors, CMD-3 and SND, are running at two interaction regions of the VEPP-2000. Each detector collected about 300 pb-1 in the new run. Considerable statistics was taken within an energy range around the nucleon-antinucleon pair production.

Precise measurements of the total hadronic cross section, characterized by the ratio R, is needed for the calculation of the contribution of the hadronic vacuum polarization to the muon anomalous magnetic moment. It should be noted that at present the accuracy of the theoretical calculations of the muon (g-2) via the Standard Model is dominated by the precision of the hadronic contribution while the difference of theoretical and experimental values exceeds three standard deviations.

In this report we will discuss current status and results obtained by the of the CMD-3 experiment.

What is your topic?

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