

Specific features of A-dependences in production of heavy vector and pseudo-scalar mesons in the near-threshold energy region

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The specific features of A-dependences in production of heavy mesons for the kinematic conditions of the NICA acceleration complex are considered. The calculations are based on the self-similarity approach. The self-similarity approach proved efficient for description of cumulative and subthreshold reactions. The new experimental data obtained at U-70 (IHEP, Protvino) with proton and carbon beams aimed at investigation of cumulative reactions with large transverse momenta are analyzed. Generalizations and predictions on absolute values of A-dependences upon transition to reactions with heavy nuclei are made. Recommendations for experimental measurement of heavy meson production cross sections both in the collider mode (experiments NICA MPD and SPD) and at extracted beams of the NICA acceleration complex using bulk targets (project SHINE and experiment FITNEX) are formulated.