Few-body aspects of near threshold meson production

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During last decade large samples of data have been collected on the production of the ground-state mesons in collisions of proton or deuteron beam with hydrogen or deuterium target. These measurements have been performed in the vicinity of the kinematical threshold where only a few partial waves in both initial and final state are expected to contribute to the production process. This simplifies significantly the interpretation of the data, yet still appears to be challenging due to the three or four particle final state systems with a complex hadronic potential. We will review experiments and phenomenology of the near threshold production of the ground-state mesons in the three- and four-body final states as for example: nucleus-meson, nucleon-nucleon-meson, and nucleon-nucleon-meson-meson.

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