

New Experimental Physics Opportunities with Meson Beams at EIC

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During the past several decades a large quantity of high-quality mesonic photo- and electro-production data have been measured at electromagnetic facilities worldwide. By contrast, meson-beam data for these same final states are mostly outdated, largely of poorer quality, or even non-existent, especially those involving spin asymmetries and polarizations. Thus, existing meson beam results provide inadequate input to interpret, analyze, and exploit the potential of the new electromagnetic data. To achieve full benefit of these high-precision electromagnetic data, new high-statistics data from measurements with meson beams, with good angle and energy coverage for a wide range of reactions, are critically needed to advance our knowledge in baryon and meson spectroscopy and other related areas of hadron physics. To address this situation, new, state-of-the-art meson-beam facilities are needed. This presentation summarizes unresolved issues in hadron physics and outlines the opportunities and advances that are possible with facilities such as the EIC.

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