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Cable-in-Conduit Dipoles for the Ion Ring of JLEIC

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The Ion Ring for the proposed Jefferson Lab Electron-Ion Collider require large aperture with high homogeneity, 1 T/s ramping, and significant beam losses. Two designs have been developed, both utilizing a cable-in-conduit (CIC) winding in which liquid helium flows within the conductor. Two alternative designs are being developed, with the same aperture, having maximum operating field of 3(6) T corresponding to 100(200) GeV/u circulating ion beam energy. Particular features are presented, including the CIC fabrication and validation and the fabrication of a first model dipole.

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