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A Ring Imaging Detector for CLAS 12 at Jefferson Laboratory

FATIHA BENMOKHTAR, Duquesne University, ANDREW WICHGER TEAM, ROBERT LOIS TEAM, RICH COLLABORATION COLLABORATION — The energy increase of Jefferson Laboratory's Continuous Electron Beam Accelerator Facility (CEBAF) to 12GeV promises to greatly extend the physics reach of its experiments. This will include an upgrade of the CEBAF Large Acceptance Spectrometer (CLAS) to CLAS12, offering unique possibilities to study internal nucleon dynamics. For this, excellent hadron identification over the full kinematical range is crucial. In the base equipment this is achieved in CLAS12 by Cherenkov and time-of-flight counters. However improved hadron identification at momenta from 3 to 8GeV/c can be obtained by the installation of a Ring Imaging CHerenkov (RICH) detector into the forward region of CLAS12. In this talk I will be introducing the proposed RICH detector and the constraints imposed upon it so it complies with geometry and performance requirements.

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