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Commercial associative memory performance for applications in track-based triggers at the Large Hadron Collider JORDAN WEBSTER, Argonne National Lab — Dense track environments in *pp* collisions at the Large Hadron Collider (LHC) motivate the use of triggers with dedicated hardware for fast track reconstruction. The ATLAS Collaboration is in the process of implementing a Fast Tracker (FTK) trigger upgrade, in which Content Addressable Memories (CAMs) will be used to rapidly match hit patterns with large banks of simulated tracks. The FTK CAMs are produced primarily at the University of Pisa. However, commercial CAM technology is rapidly developing due to applications in computer networking devices. This poster presents new studies comparing FTK CAMs to cutting-edge ternary CAMs developed by Cavium. The comparison is intended to guide the design of future track-based trigger systems for the next Phase at the LHC.

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