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Track finding with radially pointing scintillating fibers

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A detector layout using O(cm) long, radially pointing, scintillating fibers at large radius, is investigated. Such a geometry allows discrimination between high and low pT particles based on their angle of incidence and because high pT particles deposit large ionization in one or two fibers, while low pT particles deposit small ionization in many fibers. A pixelated array of these fibers provides a phi-z projection of particle trajectories, from which the track parameters can be calculated. The simulated track parameter resolutions will be presented, and some of the unique detector and electronics issues associated with such a design will be discussed.

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