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First direct measurement of the dead-cone effect at colliders using iterative declustering techniques in the Lund plane, with D meson jets in pp collisions at $\sqrt{s} = 13$ TeV with ALICE

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We report the first direct measurement of the dead-cone effect at colliders, using iterative jet declustering techniques in pp collisions at $\sqrt{s} = 13$ TeV. The procedure detailed in, exposes the splittings of D mesons in the jet shower, by iteratively declustering the angular ordered C/A tree. The splitting history of the D meson initiated jet is mapped onto the Lund plane, where appropriate cuts can be made to suppress hadronisation effects. The reported variable is the splitting angle with respect to the D meson axis, which is updated after each splitting. Track-based jet finding, along with the low p_T^{ch} reach of the ALICE detector, allow for an accurate reconstruction of the splitting angle in the phase-space where the dead-cone effect is expected to be largest. The results are compared to those of inclusive jets and theoretical models.

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