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High pt top-jet production at the LHC

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The production of $t\bar{t}$ pairs at high p_T , i.e. the so-called boosted regime, is characterized by two collimated jets which contain most of the particles originating from the top decays. We investigate a scenario with both top quarks decaying hadronically. We attempt a definition of “top jet”, by considering the substructure of the selected “fat” jets resulting from the top decay and we study the contamination from QCD events (the background). Theoretical predictions of the differential cross sections as a function of the azimuthal difference between the two top jets, as well as p_T distribution of the top jets is presented using the definition of “top jets”, on analogies at QCD dijet topologies.

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