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### **Hunting Asymmetric Top Squark Decays**

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In the irreducible natural supersymmetric spectrum, top squarks have comparable branching fractions to chargino-bottom and neutralino-top final states in the vast bulk of parameter space, provided only that both decay modes are kinematically accessible. The total top squark pair branching fractions into  $t\bar{t}+\text{MET}$  (MET=missing transverse energy) can therefore be reduced, thus limiting the reach of traditional top squark searches. A new top squark search targeting the asymmetric final state  $t\bar{b}+\text{MET}$ , which can restore sensitivity to natural top squarks in the 7, 8 and 14 TeV LHC runs will be presented. A new variable, topness, will be introduced, which efficiently suppresses the dominant top backgrounds to semileptonic top partner searches. The utility of topness in both the asymmetric search channel and traditional  $t\bar{t}+\text{MET}$  searches will be compared and be shown to match or outperform existing variables.