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Computer modeling of the production mode of MSSM Higgs boson

With the help of computer modelling, b-jets were identified under certain kinematical restrictions on the transverse momentum and pseudorapidity at the LHC with 14 TeV energy. The calculations were carried out in the framework of the MSSM model with the parameters determined from the latest experimental data. The selection of the most high-energy jets at the optimum value of their departure angle after a proton-proton collision was made. Only 5 jets were obtained which satisfy the restrictions on pt > 180 GeV. An analysis of the masses of the resulting jets allows to identify them as b-quark jets, into which top quarks decay with a probability of 99.8%. Taking into account the angular distribution of jets in the framework of the pp–>A–>tt reaction, as well as the growth of the cross section for the formation of a top-quark pair with energy, allow us to predict the mass A boson of the MSSM model in the region of about 370 GeV.

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