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Search for NMSSM Higgs production with the CMS detector AYSEN TATARINOV, Texas A&M University, CMS COLLABORATION — Light bosons weakly coupling to the Standard Model may appear in the context of Next-to-Minimal Supersymmetric Standard Model (NMSSM), which could resolve the tension between direct and indirect measurements of the Higgs mass. We present a search for the lightest CP-even Higgs boson (h1) decaying into two lightest CP-odd Higgs bosons (a1), followed by their decays into two pairs of collimated muons in the NMSSM. The search covers the lightest CP-odd Higgs boson (a1) mass from 0.25 to 3.5 GeV/c2 and sets upper limit on NMSSM Higgs boson production (sigma*B). It was performed using pp collisions data recorded by the CMS experiment at the LHC, at center-of-mass energy of 7 TeV, and corresponding to an integrated luminosity of 4.9 fb^{-1}.

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