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## The Lightest Higgs Boson and Relic Neutralino in the MSSM with CP Violation

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We discuss the lower bound to the lightest Higgs boson  $H_1$  in the minimal supersymmetric extension of the standard model with explicit CP violation, and the phenomenology of the lightest relic neutralino in the same scenario. We find that the combination of present experimental constraints favours a region of the parameter space where the mass of  $H_1$  is in the range  $7 \text{ GeV} < M_{H_1} < 10 \text{ GeV}$ , while  $3 < \tan(\beta) < 5$ . Assuming a departure from the usual GUT relation among gaugino masses ( $|M_1| \ll |M_2|$ ), we find that through resonant annihilation to  $H_1$  a neutralino as light as  $2.9 \text{ GeV}$  can be a viable dark matter candidate. We call this the CPX light neutralino scenario, and discuss its prospect of detection both from direct and indirect dark matter searches.

**Authors:** Dr LEE, Jae Sik (Center of Theoretical Physics, School of Physics, Seoul National University, Seoul); Dr SCOPEL, Stefano (Korea Institute of Advanced Study, Seoul)

**Presenter:** Dr SCOPEL, Stefano (Korea Institute of Advanced Study, Seoul)

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