

Z_3-NMSSM with a Light Singlet Scalar under the Latest Experimental Constraints

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In the Z_3-NMSSM with a light singlet scalar, the bino-dominated dark matter candidate exhibits significant deviations from the MSSM in its properties, mechanisms for relic abundance, and detection prospects. By incorporating the latest experimental results, including those from LUX-ZEPLIN, LHC supersymmetry searches, and the muon g-2 measurement, this study presents a systematic assessment of the model's consistency with current observational data.

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