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RH Sneutrino Condensate CDM and the Baryon-to-Dark Matter Ratio

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The similarity of the observed densities of baryons and CDM suggest that they have a common or related origin. This can be understood in the context of the MSSM with RH sneutrinos if CDM is due to a d=4 flat direction condensate of very weakly coupled RH sneutrino LSPs and the baryon asymmetry is generated by d = 4 (H_{u}L)^2 Affleck-Dine leptogenesis. An observable CDM isocurvature perturbation is possible in the case of inflation driven by a D-term or by an F-term with suppressed H-corrections to A-terms. Combined with distinctive NLSP collider phenomenology, this would provide a clear signature for RH sneutrino condensate CDM.

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