

The unbearable lightness of being: CDMS versus XENON

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The CDMS-II collaboration has reported 3 events in a Si detector, which are consistent with being nuclear recoils due to scattering of Galactic dark matter particles with a mass of about 8.6 GeV and a cross-section on neutrons of about $2 \times 10^{-41} \text{ cm}^2$. In my presentation I will discuss the tension between this result and upper bounds from the XENON10 and XENON100 experiments and under what conditions this tension can be ameliorated or resolved. A particular focus will be on experimental uncertainties (for example concerning the ionisation yield Q_y) and uncertainties related to the dark matter velocity distribution. Finally, I will discuss various particle physics modifications of the interactions between DM and SM quarks which can bring XENON10/100 and CDMS-II into better agreement.

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