Contribution ID: 13

Possibility of light neutral hypernuclei with strangeness -1 and -2

Wednesday, 14 May 2014 10:00 (30 minutes)

Our current knowledge of the baryon–baryon interaction suggests that the dineutron (n,n) and its strange analogue (Lambda,N) are unstable. In contrast, the situation is more favourable for the strange three-body system (n,n,Lambda), and even better for the four-body system T=(n,n,Lambda,Lambda) with strangeness -2, which is more likely to be stable under spontaneous dissociation. This new nucleus could be produced and identified in central deuteron–deuteron collisions via reaction d+d -> T+K+K.

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Session Classification: Part 1