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Comments on the hypertriton binding energy

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The Lambda binding energy (B_L) of the hypertriton (Lambda-p-n) places a major constraint on the Lambda-Nucleon interaction, particularly on its spin dependence. It is also correlated with the hypertriton lifetime [1]. Recent experiments give a broad spectrum of values for B_L: from 63(+38/-31) keV (J-PARC E73 [2]) to 523+/-76 keV (A1, MAMI [3]).

In this talk I will discuss possible ambiguities in the deduction of these two extreme values, suggesting in particular that MAMI's large value of B_L could have arisen from misidentifying the origin of the observed weak-decay pion momentum, which fits also weak decays of the L7He hypernucleus [4].

[1] D. Gazda, A. Perez-Obiol, A. Gal, E. Friedman, PRC 109 (2024) 024001.
[2] T. Akaishi, et al., PLB 873 (2026) 140163.
[3] R. Kino, et al., arXiv:2601.08694 (accepted to PRL).
[4] A. Gal, arXiv:2604.18259

Collaboration

Primary author: GAL, Avraham (Hebrew University)

Presenter: GAL, Avraham (Hebrew University)

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