

## Constraints from $\Lambda$ hypernuclei on the $\Lambda NN$ content of the $\Lambda$ -nucleus potential

*Wednesday, 29 June 2022 12:00 (30 minutes)*

Two-body hyperon-nucleon interaction models often assume additional 3-body  $\Lambda NN$  terms to reproduce the empirically derived value of  $D = 30$  MeV for the  $\Lambda$ -nucleus potential depth. There is no consensus yet on the sign and size of such 3-body terms. Applying consistently a density-dependent  $\Lambda$ -nucleus optical potential to binding energy calculations of observed  $1s$  and  $1p$  states in the mass range  $A = 12 - 208$ , we constrain the  $\Lambda NN$  contribution to  $D$  by  $14 \pm 2$  MeV repulsion at symmetric nuclear matter density  $0.17\text{fm}^{-3}$  [1] in rough agreement with some theoretical models.

[1] E. Friedman, A. Gal, in preparation (03/2022).

**Primary authors:** GAL, Avraham (Racah Institute of Physics, The Hebrew University); FRIEDMAN, Eliahu (Racah Institute of Physics, The Hebrew University)

**Presenter:** GAL, Avraham (Racah Institute of Physics, The Hebrew University)

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