Constraining the Λ–Λ interaction with femtoscopy in small systems at the LHC

Andi Mathis & Dimitar Mihaylov on behalf of the ALICE Collaboration

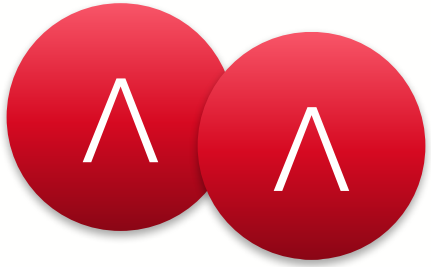
57th International Winter Meeting on Nuclear Physics 2019 – Bormio

The H–Dibaryon

Perhaps a Stable Dihyperon*

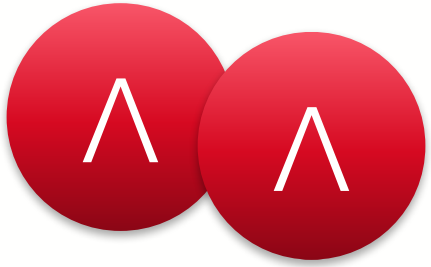
R. L. Jaffe†

PRL 38 (1977) 195.



- Possible bound state composed of six quarks (*uuddss*)
- Predicted using a bag model approach

How to find it?



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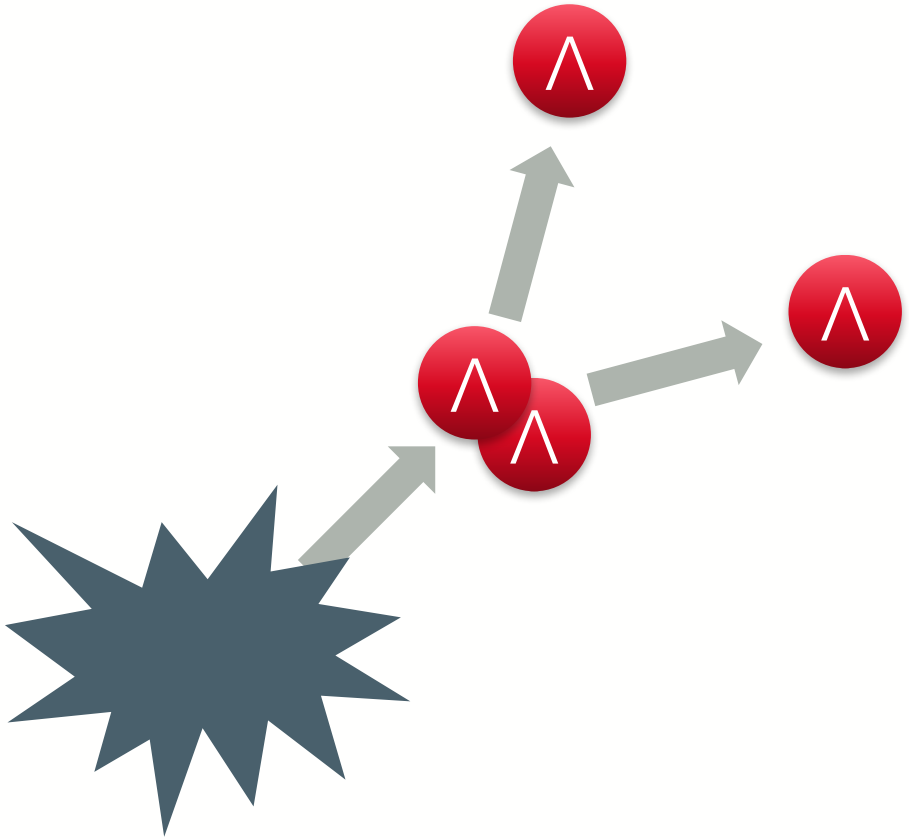
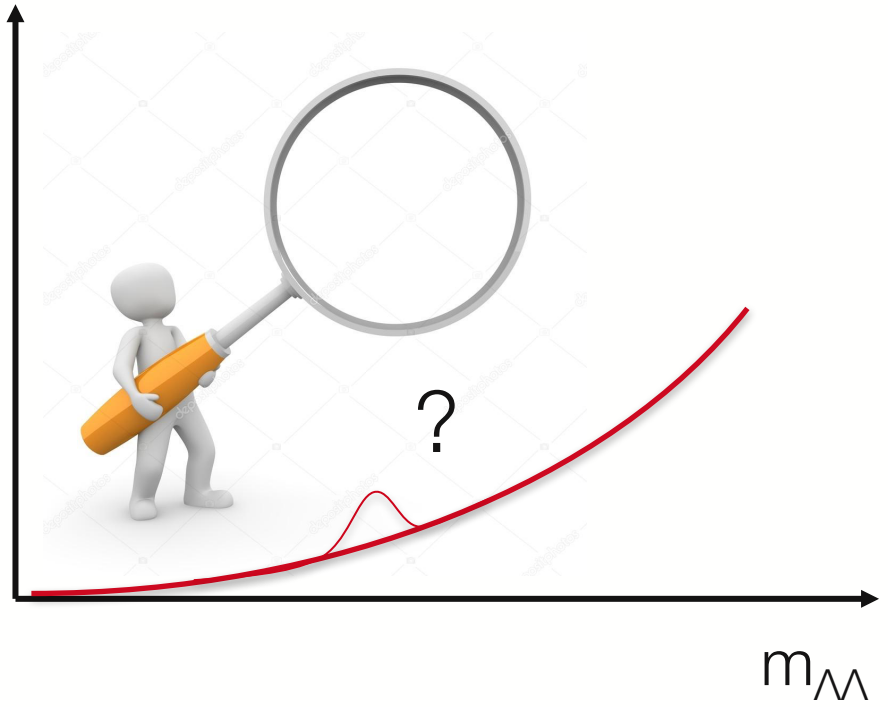
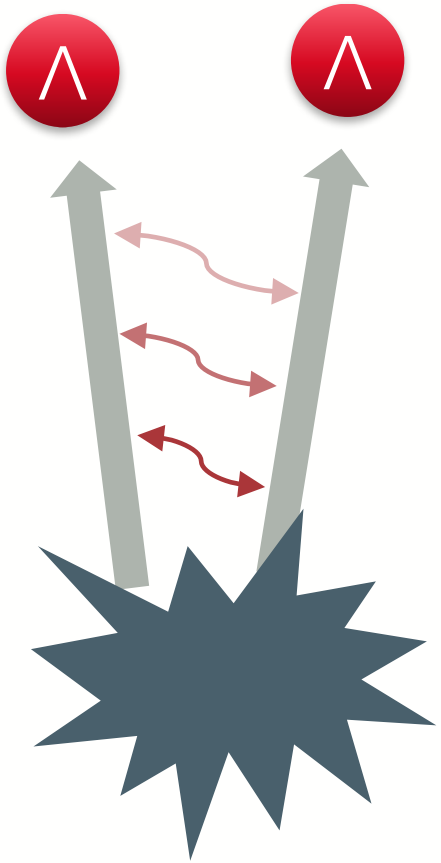
Direct searches for the H-Dibaryon





so far no evidence…

… then study the Λ–Λ interaction!



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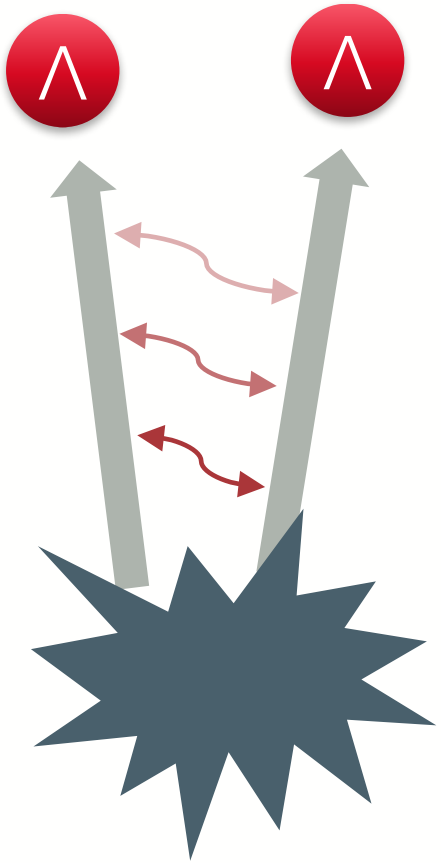

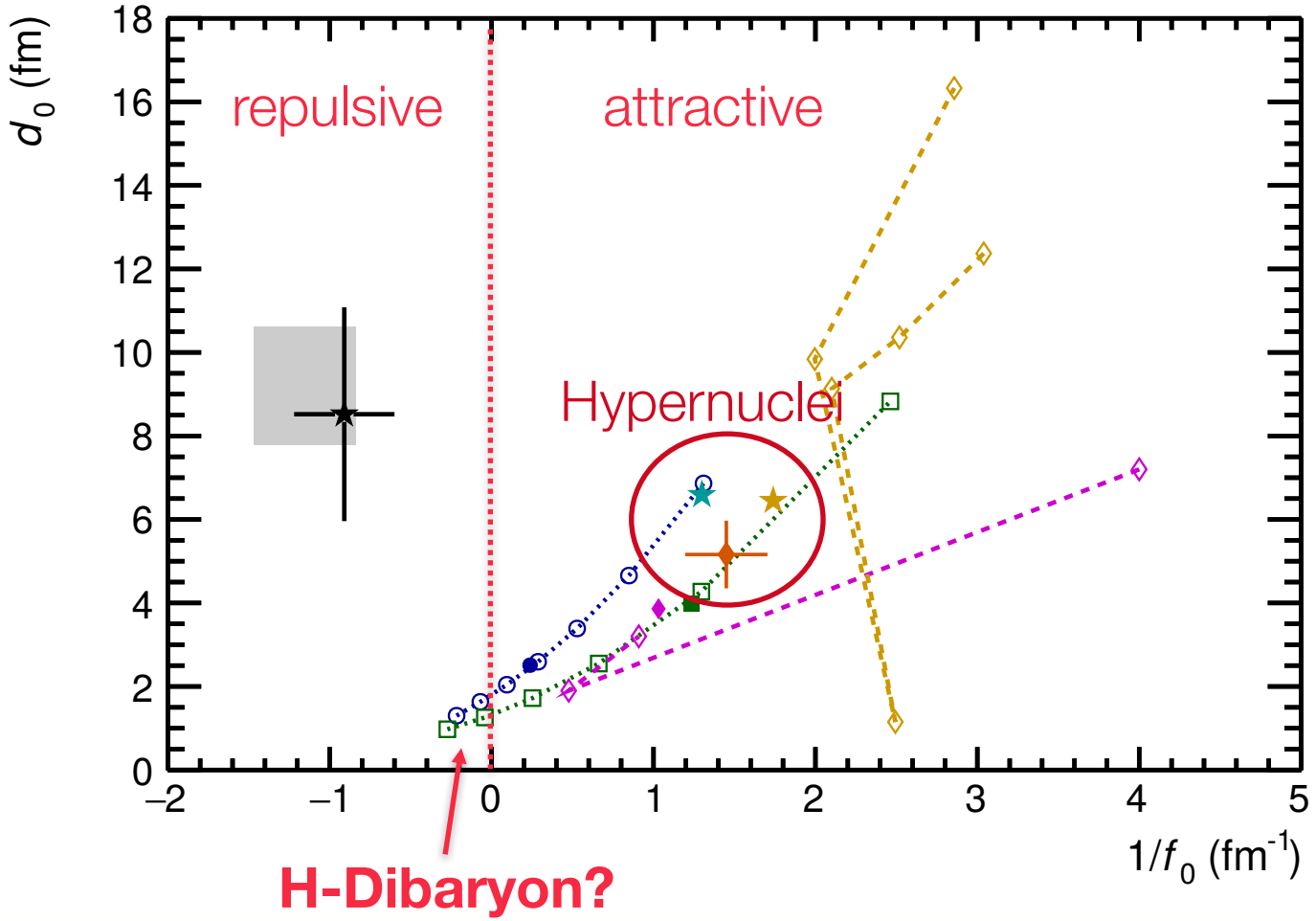

STAR Collab., PRL 114 (2015) 022301.

K. Morita, et al, PRC 91 (2015) 024916.

K. Sasaki and T. Hatsuda (HAL QCD Collab.), priv. comm.

- STAR
- HKMYY
- FG
- ND
- NF
- NSC89
- NSC97
- Ehime
- ESC08
- fss2
- K. Sasaki and T. Hatsuda (HAL QCD Collab.)

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