

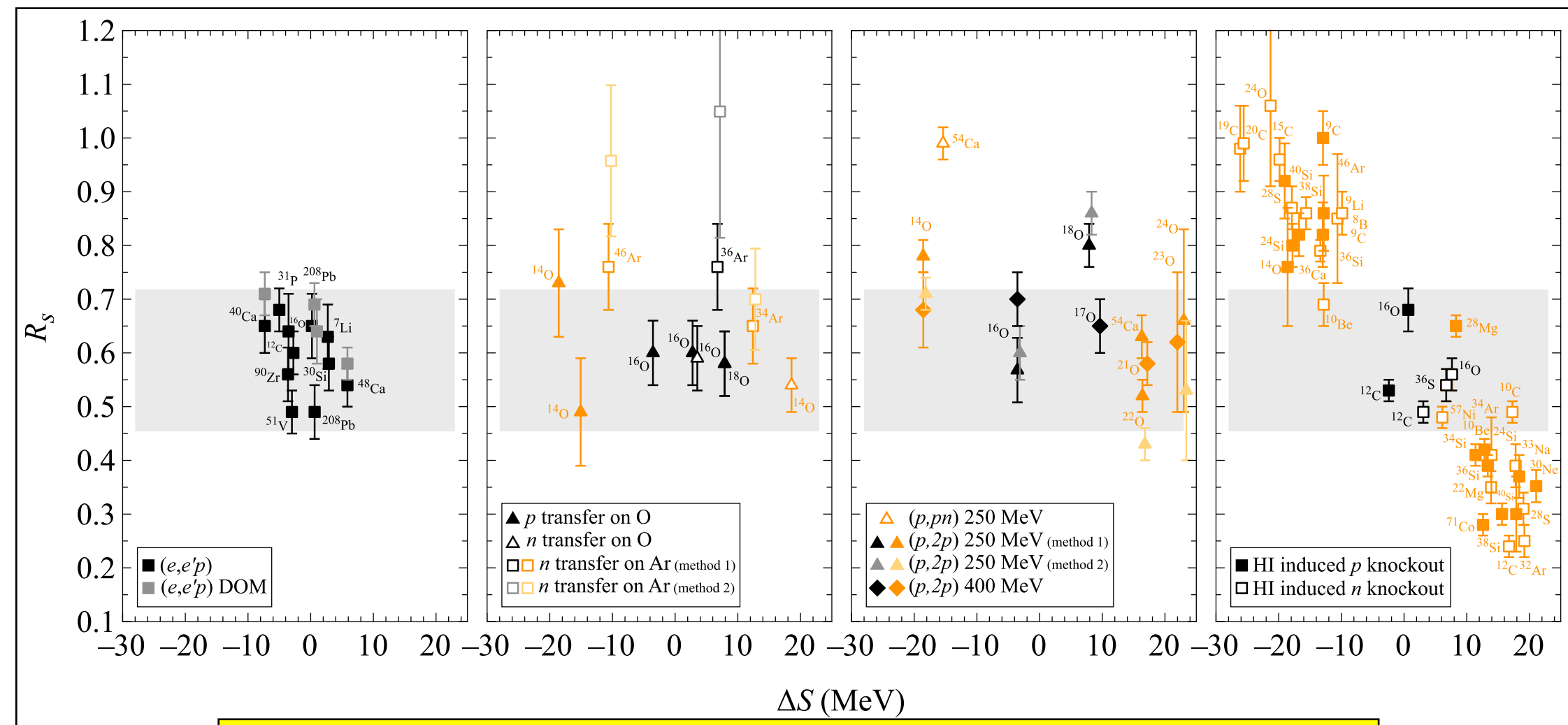
*Reaction Theory and Quenching of Single-Particle Strength**

Ben Kay, Argonne National Laboratory (kay@anl.gov)

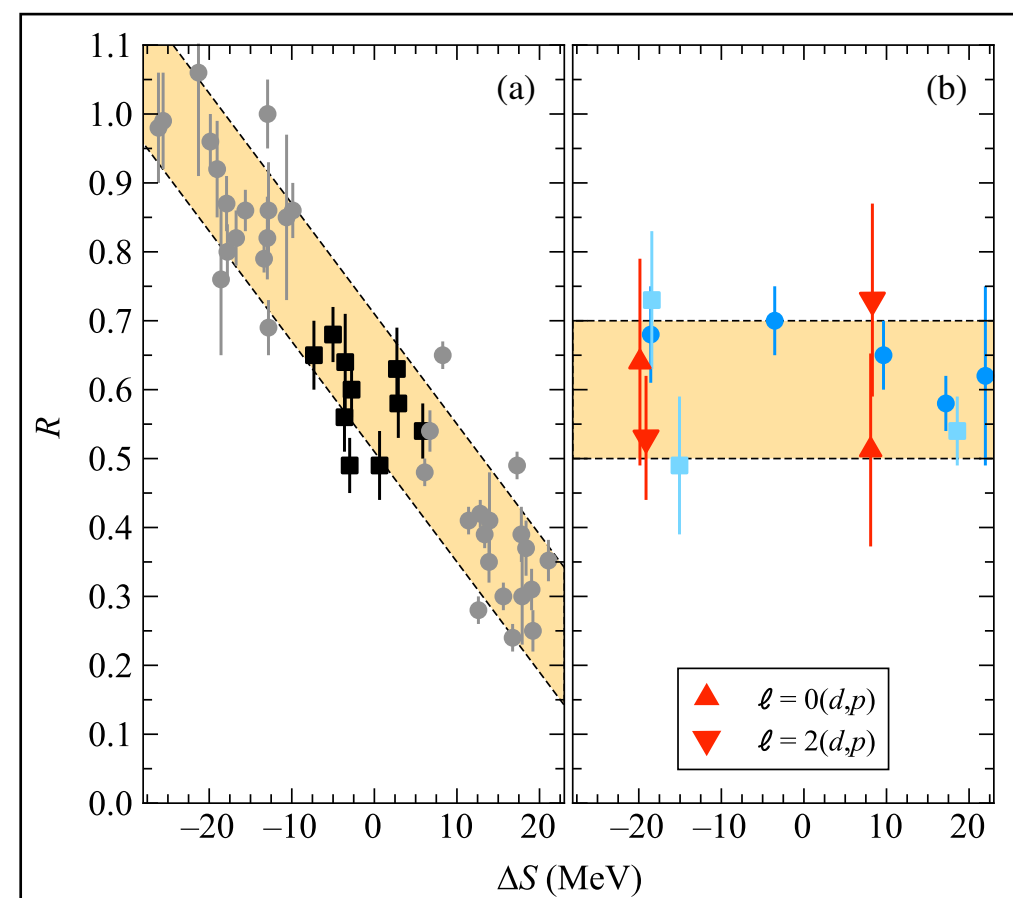
2022 NSAC Long-Range Plan Town Hall Meeting on Nuclear Structure, Reactions and Astrophysics

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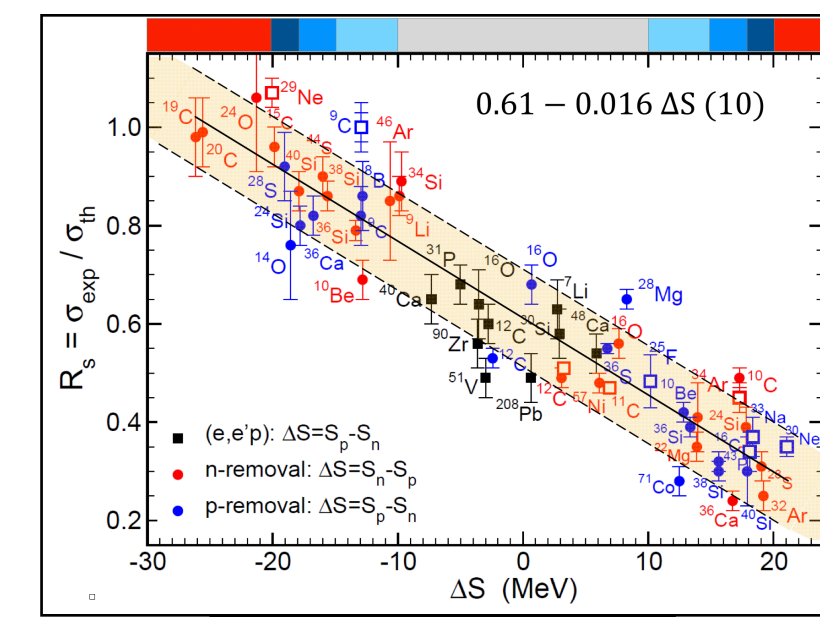
Quenching



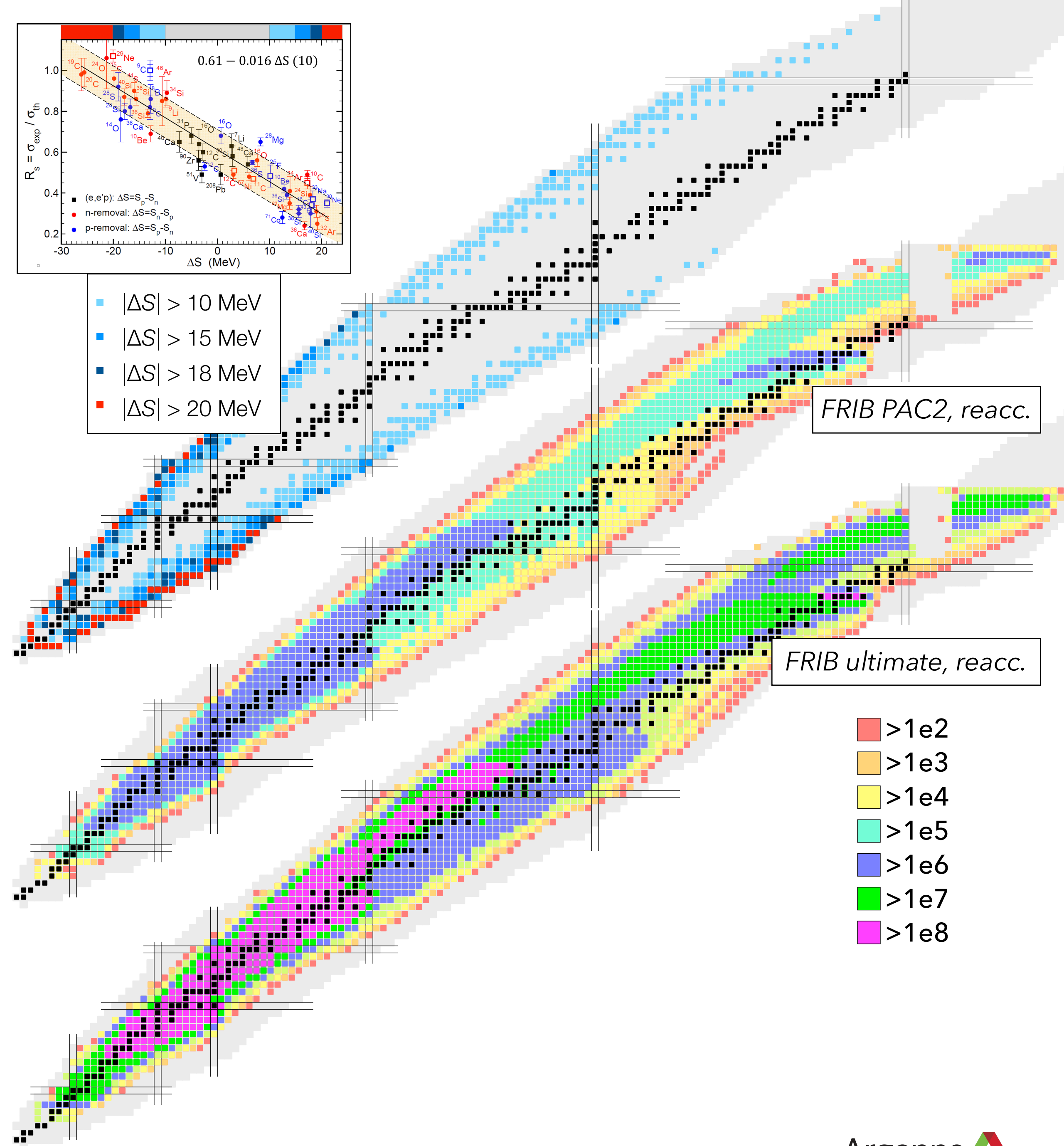
Quenching probed via n -adding in systems separated by large ΔS , Aumann et al., PPNP 118, 103847 (2021)



Quenching probed via n -adding in systems separated by large ΔS , BPK et al., PRL 129, 152591 (2022)



- $|\Delta S| > 10$ MeV
- $|\Delta S| > 15$ MeV
- $|\Delta S| > 18$ MeV
- $|\Delta S| > 20$ MeV

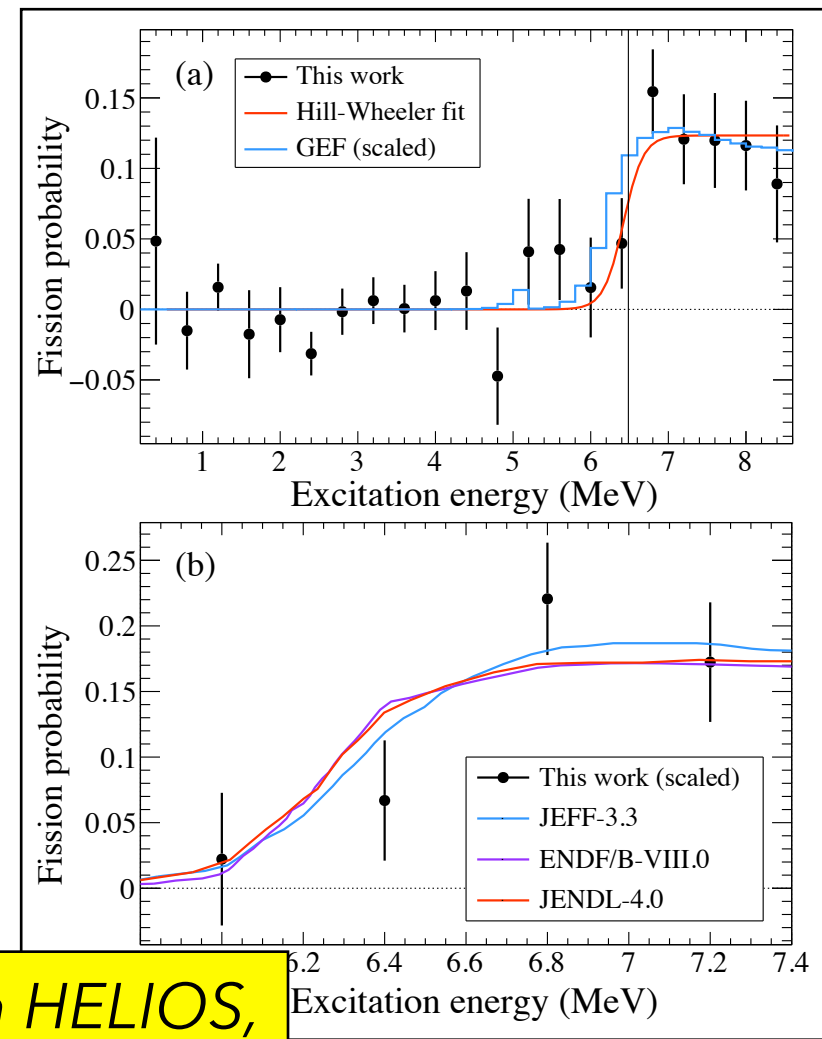
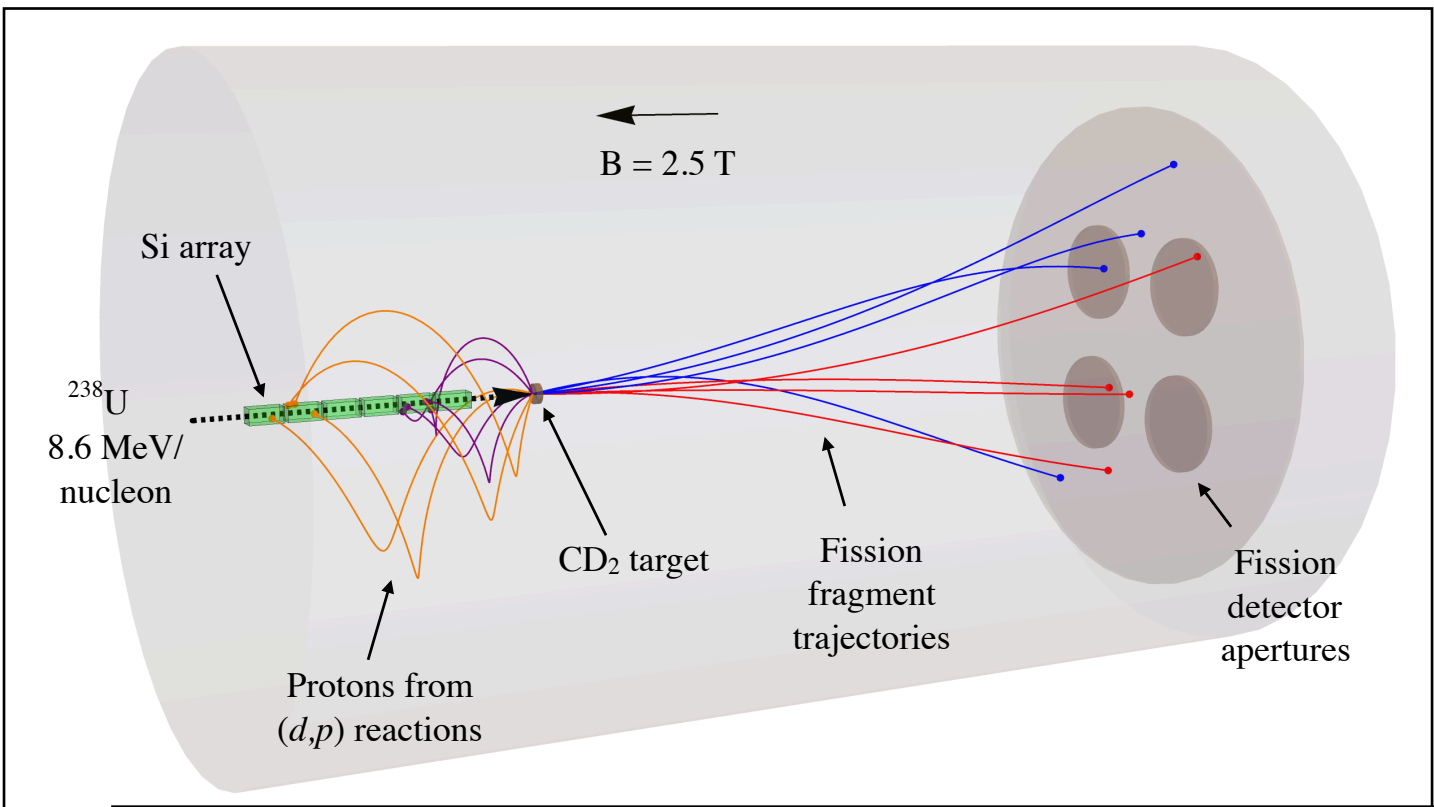
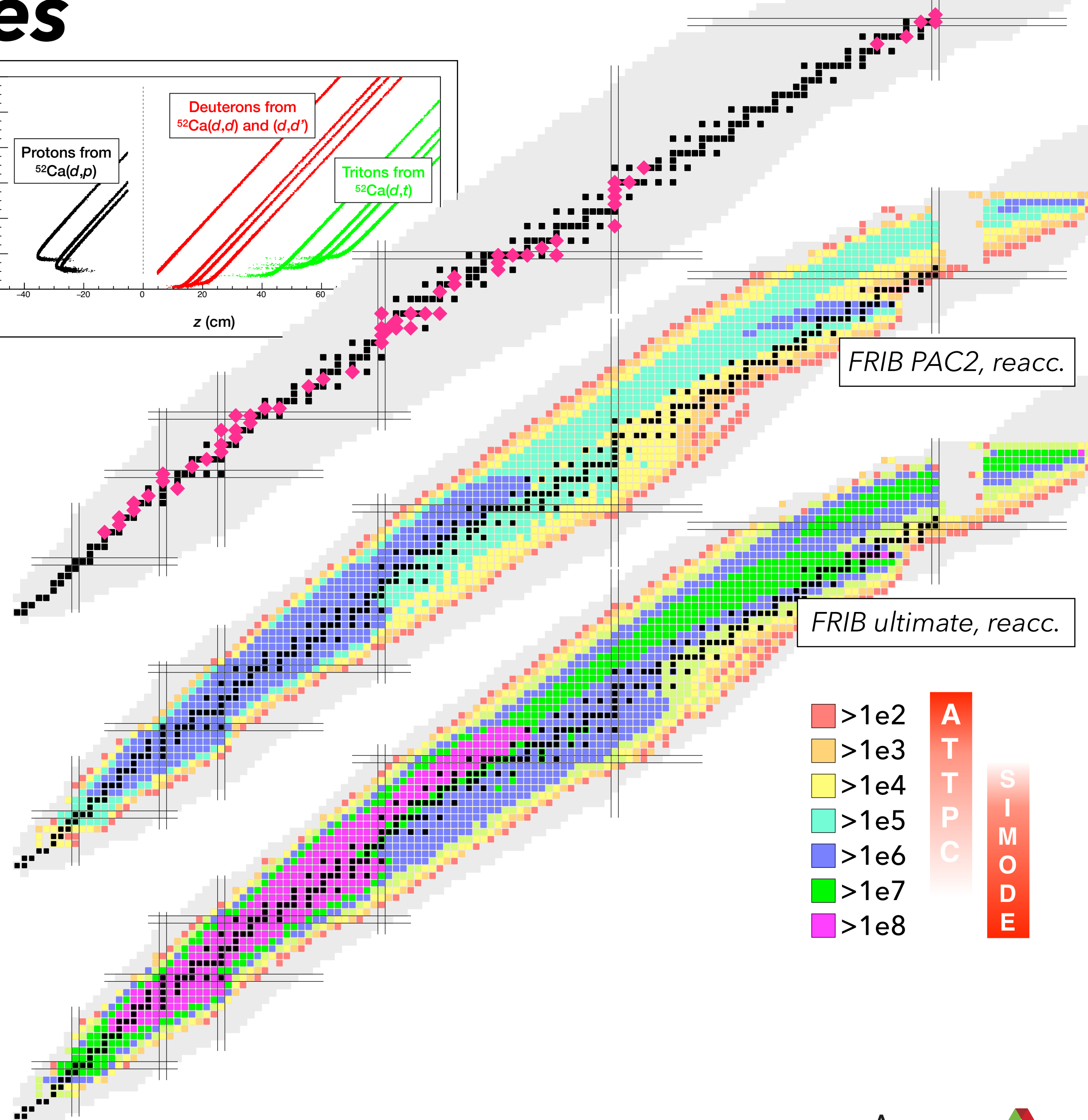
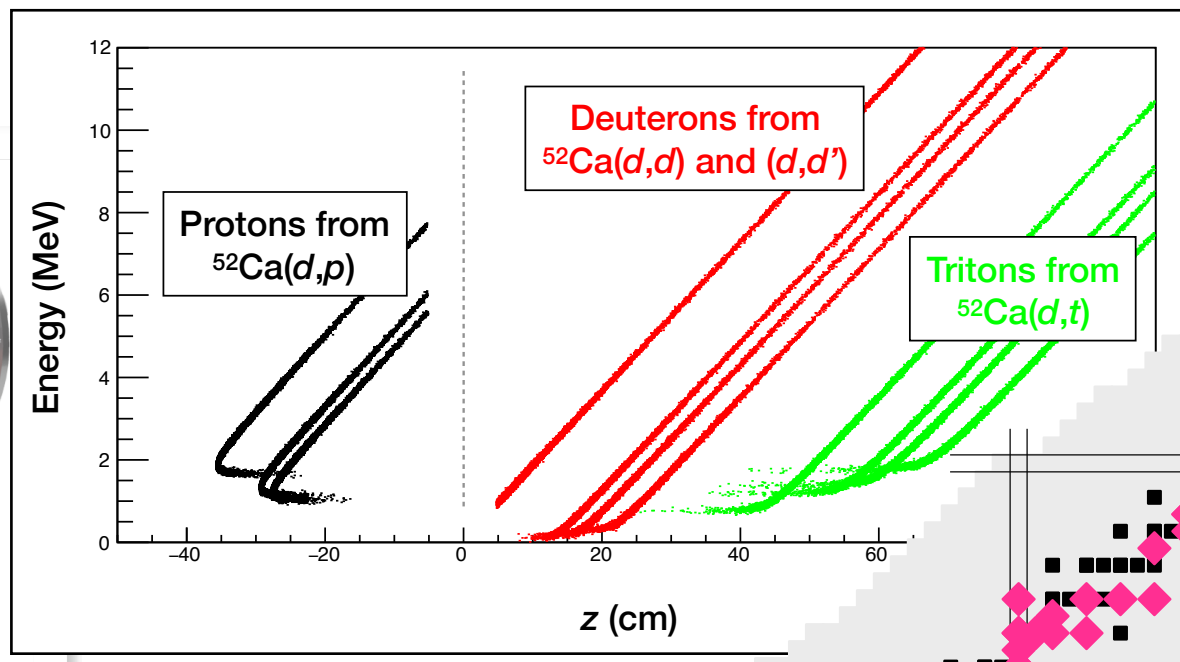
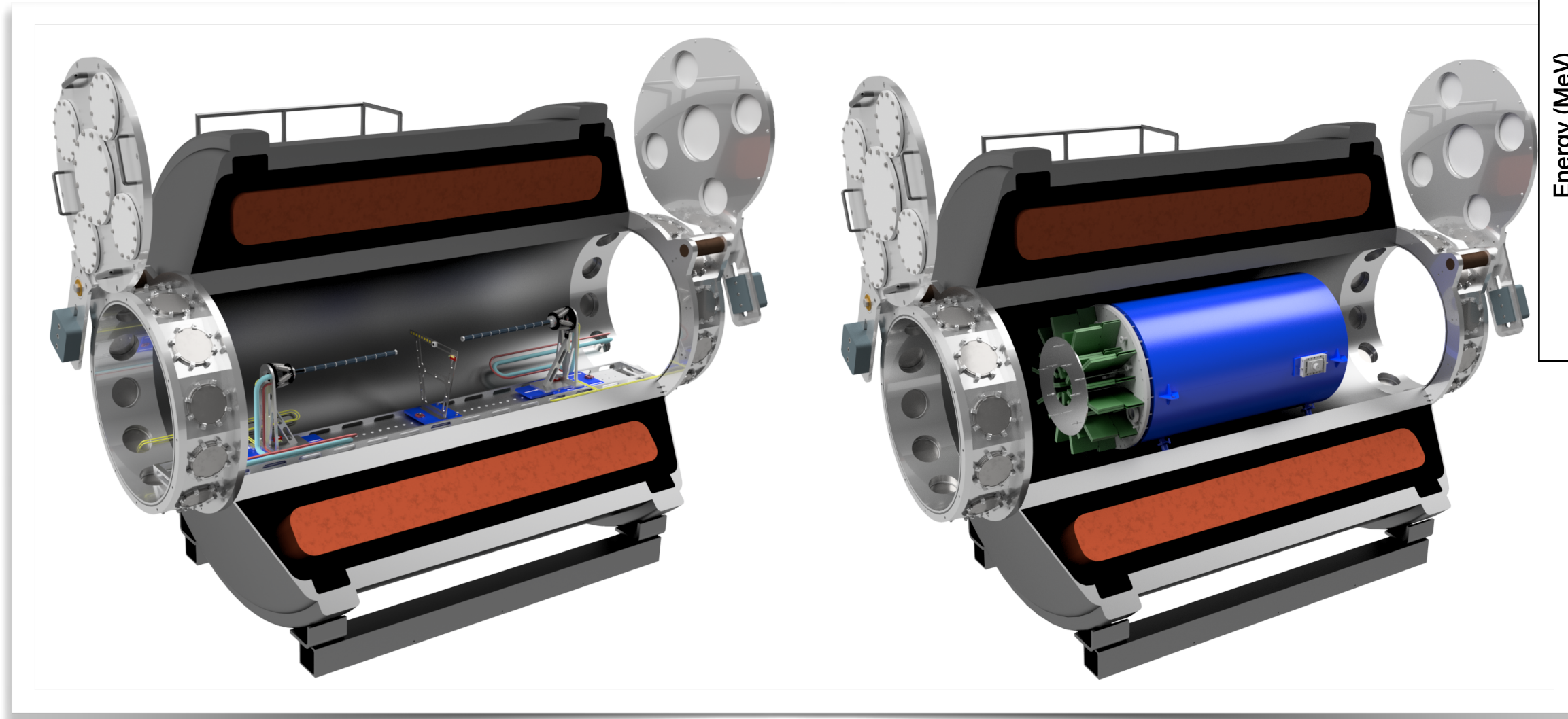


FRIB PAC2, reacc.

FRIB ultimate, reacc.

- $>1e2$
- $>1e3$
- $>1e4$
- $>1e5$
- $>1e6$
- $>1e7$
- $>1e8$

Reactions/OMPs/surrogates



Direct determination of fission barrier height in HELIOS, S. Bennett et al., submitted (2022)

- >1e2
 - >1e3
 - >1e4
 - >1e5
 - >1e6
 - >1e7
 - >1e8
- A
T
T
P
C

S
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M
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D
E