



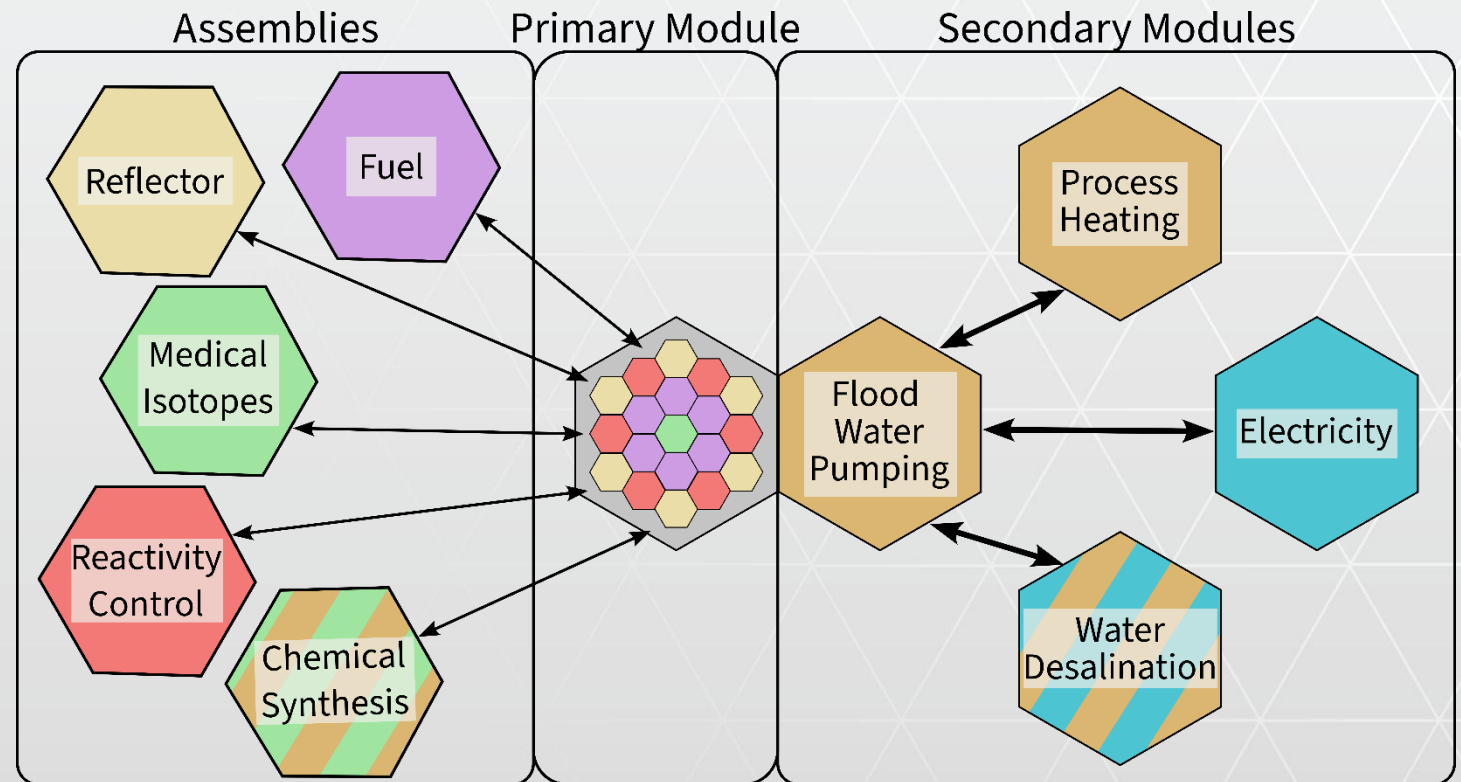
DARWIN

DARWIN Reactor Core: Fuel and Moderator Temperature Feedback

Anže Mihelčič, Dušan Čalič, Luka Snoj

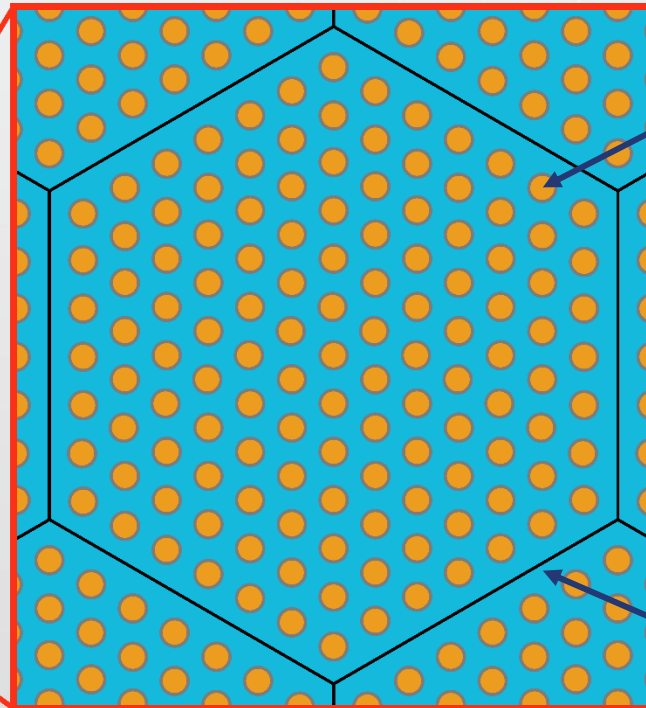
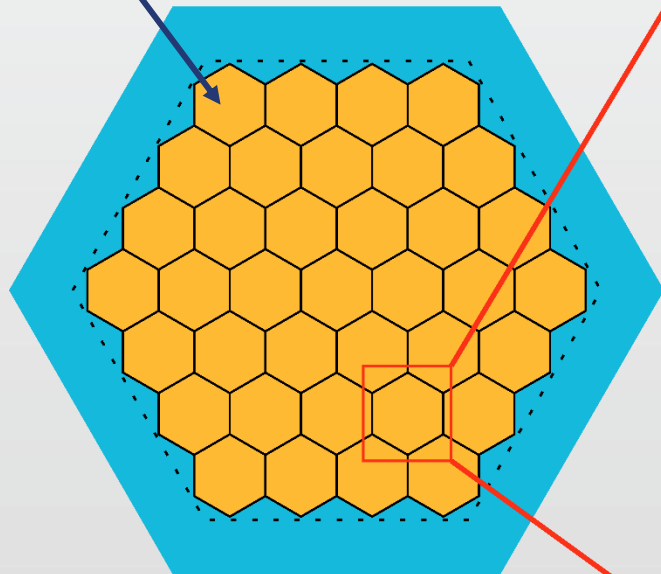
What is DARWIN?

- Dispatchable Adaptive Reactor With Interchangeable components



Computational model

Fuel assembly



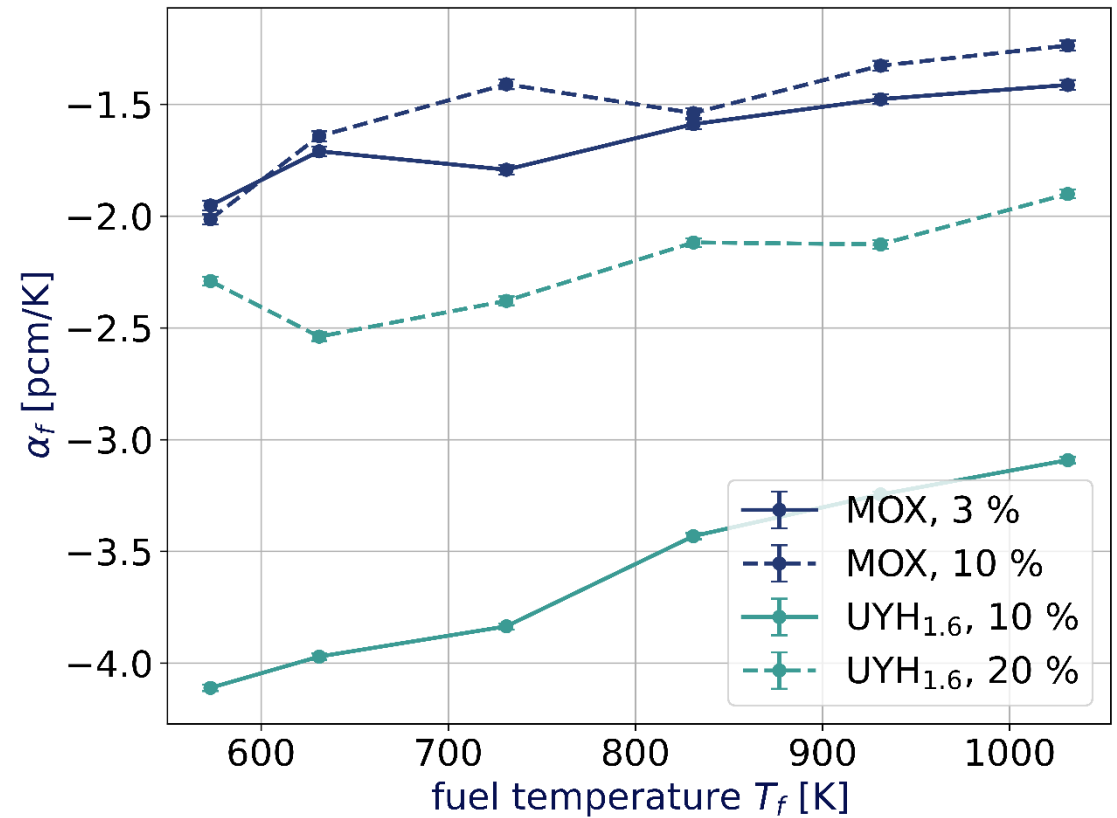
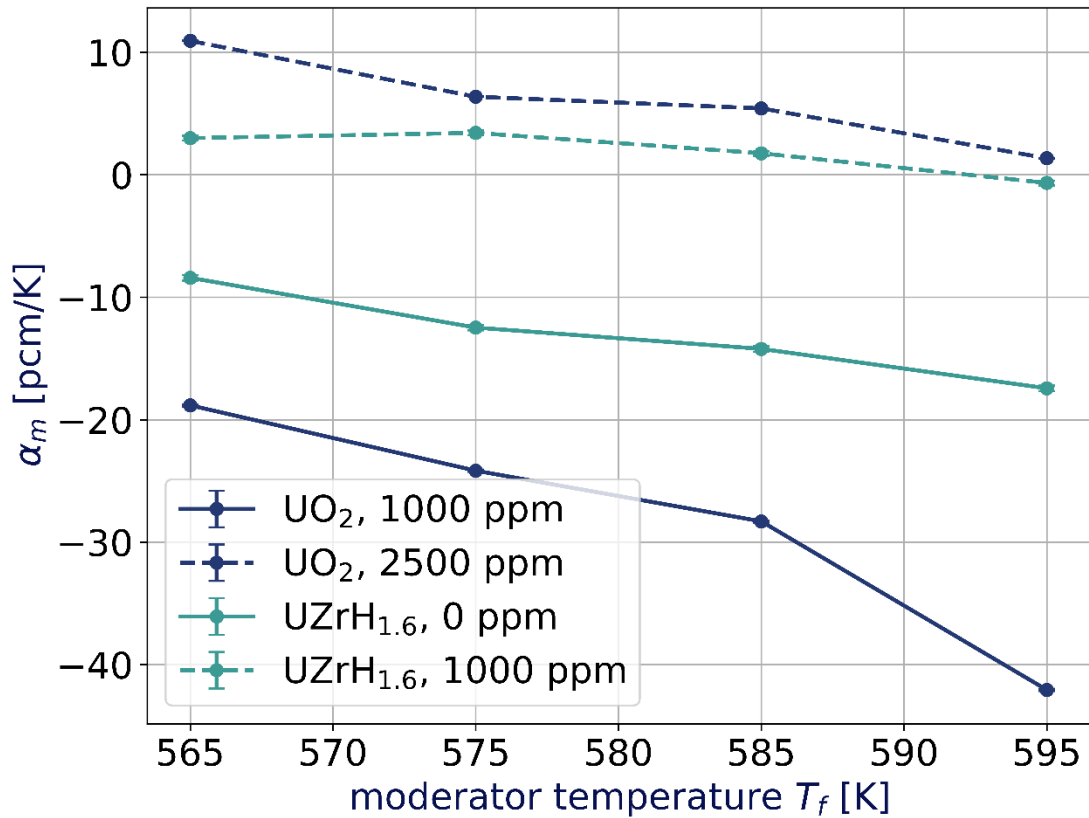
Fuel pin

Fuel:

- UO_2
- MOX
- $\text{UZrH}_{1.6}$
- $\text{UYH}_{1.6}$
- ^{233}U
- ^{235}U
- ^{239}Pu
- ^{241}Pu

Light water with boron
 $c_B \in [0 \text{ ppm}, 2500 \text{ ppm}]$

Temperature Feedback Coefficients





DARWIN

Thank you for your attention.