PAUL SCHERRER INSTITUT

PSI

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Contribution from subtask 2.1 to the SOTA update

EURAD WP8 SFC annual Meeting, Taegi, Wettingen,
October 31 – November 2, 2023

Zertifiziertes Managementsystem
STARS
ISO 9001

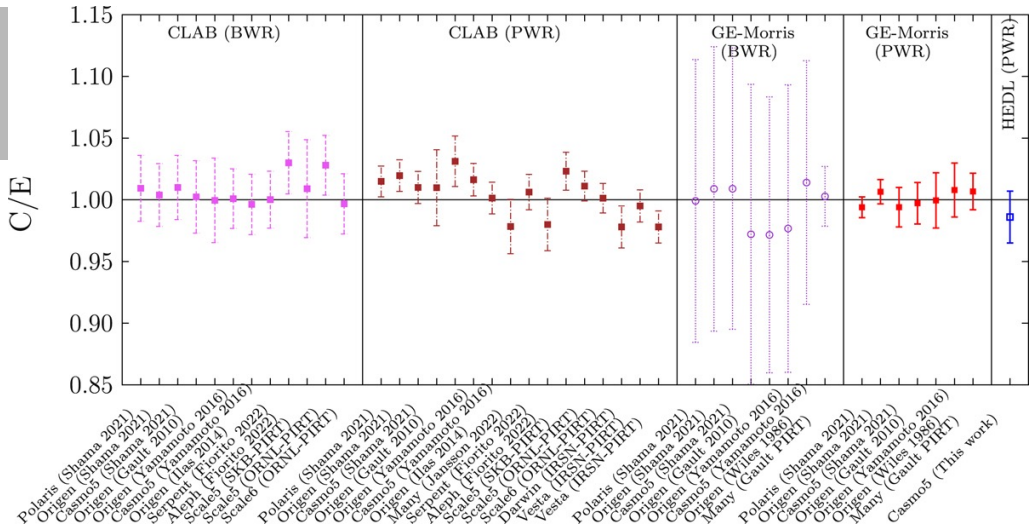
Summary

- Subtask 2.1 main outcome

- Proposal for the SOTA update
  - Conclusion from subtask 2.1
  - Future developments

Subtask 2.1 main outcome

- Based on EPJ/N 9 (2023) 14: including the main results in the SOTA



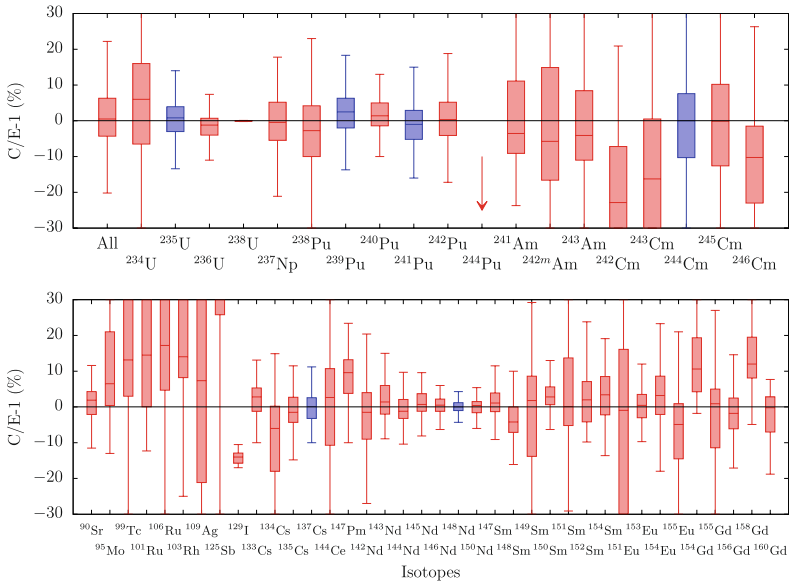


Table 6. Summary of the recommendations concerning some SNF calculated nuclide concentrations and decay heat, for the cooling period between 1 and 1000 years

	^{148}Nd	^{137}Cs	^{235}U	^{239}Pu	Average burnup	Decay heat
Uncertainty	4%	5%	4%	4%	5%	> 4%
Bias	−0.1%	−0.4%	+0.2%	+2.5%	–	See Figure 9

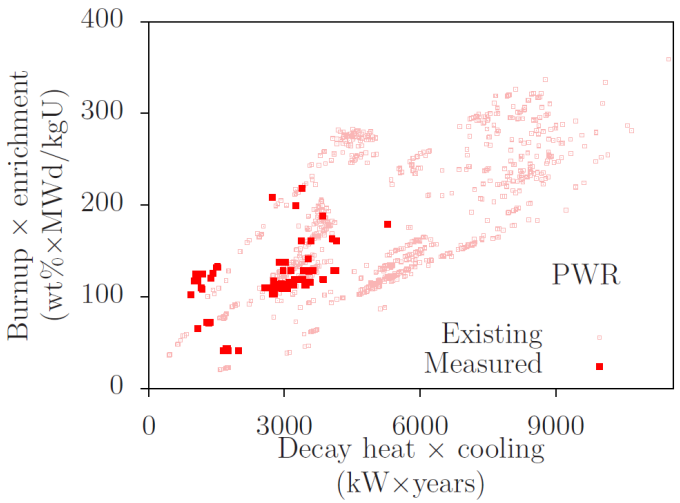
The uncertainty represents one standard deviation (1σ).

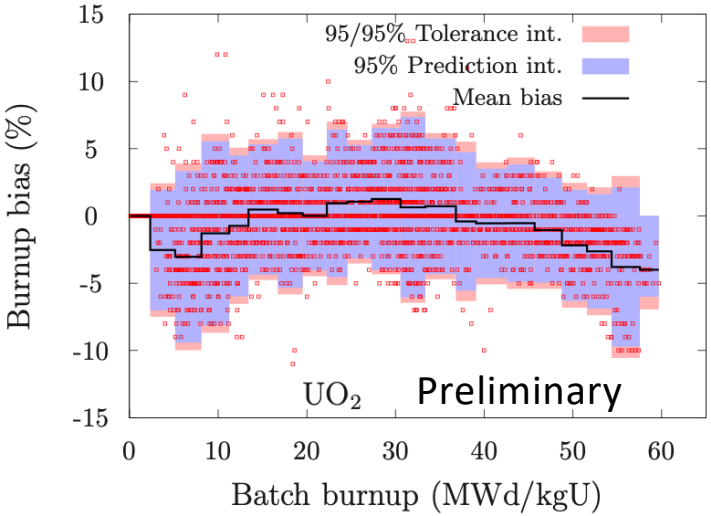
Subtask 2.1 main outcome

- Future developments:
  1. Missing experimental information (high BU, high enrichment, MOX…) for both decay heat, nuclide concentrations and criticality benchmarks

  2. Need to focus on other uncertainty sources with blind benchmarks

  3. Need to emphasize the BU implications





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Wir schaffen Wissen – heute für morgen