PAUL SCHERRER INSTITUT

WIR SCHAFFEN WISSEN – HEUTE FÜR MORGEN

M. Hursin (PSI), O. Cabellos (UPM)

Welcome and Meeting Objectives

WPEC/SG46, May 12th, 2021 (WebEx Meeting)

SG46 mandate

- SG started in 2017 with M. Salvatores and P. Palmiotti as chairs

- We are now midway through Year #4, mandate will most likely be extended 1-2 years

- Objectives as listed in the mandate:

  - To give guidelines/protocols for selecting and prioritizing integral experiments for ND validation

  - To perform generalized adjustment methodologies to provide unambiguous feedbacks to evaluators

  - To provide updated target accuracies for nuclear data uncertainty reduction

Goals for today's meeting

- Reminder of where we are with respect to the SG objectives

- Discuss what we still need to do / what extra topics we want to cover

- Discuss archival of the knowledge gathered over the past years

- **To give guidelines/protocols for selecting and prioritizing integral experiments for ND validation**
  - Various approaches to select integral experiment were presented (as well as ways to assess this selection)
  - Beta effective / shielding / depletion benchmarks were shown to be extremely useful for ND validation
  - Effects of combining differential and integral experiments were investigated
  - Marginalized Likelihood Optimization was proposed for a more inclusive use of the integral experiments data
  - Machine Learning algorithms were mentioned for ND validation but their potential has not been demonstrated (yet) for DA

- **To perform generalized adjustment methodologies to provide unambiguous feedbacks to evaluators**
  - CE sensitivity coefficients and associated description of the covariances were proposed to mitigate method bias on posterior distribution
  - NEA Sensitivity coefficients database is developed to allow more efficient use of the existing knowledge
  - APIA, bias factor methods approaches were presented for deterministic adjustments
  - Stochastic approaches (BMC, MOCABA) were proposed as well

- **To provide updated target accuracies for nuclear data uncertainty reduction**
  - This was the focus of the past few meetings/separate workshops
  - Various types of reactor types and quantities of interest were reviewed, target accuracies updated (still on-going)
  - Specifications of the TAR exercise to be circulated soon
  - Performing the exercise is the next step

Today's meeting

Duration	PST (CA, USA)	CET (Paris)	JST (Tokyo)	Topic	
00:20	05:00	**14:00**	22:00	Welcome and meeting objectives	M. Hursin
00:20	05:20	**14:20**	22:20	Benchmark Specifications and Guidelines for the WPEC/SG46 exercise on TAR	O. Cabellos
00:20	05:40	**14:40**	22:40	TAR: Impact of taking into account correlations	P. Palmiotti
00:20	**06:00**	**15:00**	**23:00**	Short Break	
00:20	06:20	**15:20**	23:20	The plans for integral adjustment using marginal likelihood optimization at Uppsala university	H. Sjöstrand
00:20	06:40	**15:40**	23:40	Status of IRSN contribution	E. Ivanov
00:20	07:00	**16:00**	00:00	Pulsed Neutron Die Away Experiments at Lawrence Livermore National Laboratory	D. Siefman
00:30	07:20	**16:20**	00:20	Discussions on SG 46 path forward	
00:10	07:50	**16:50**	00:50	AOB	
	08:00	**17:00**	01:00	Close	

Thank you for your attention !