

Welcome and a very short introduction to Serpent

2nd International Serpent User Group Meeting,
Madrid, Spain, September 19-21, 2012

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Outline

Introduction to Serpent:

- Brief history
- User community

This meeting:

- Participants and presentations
- Topics for Friday

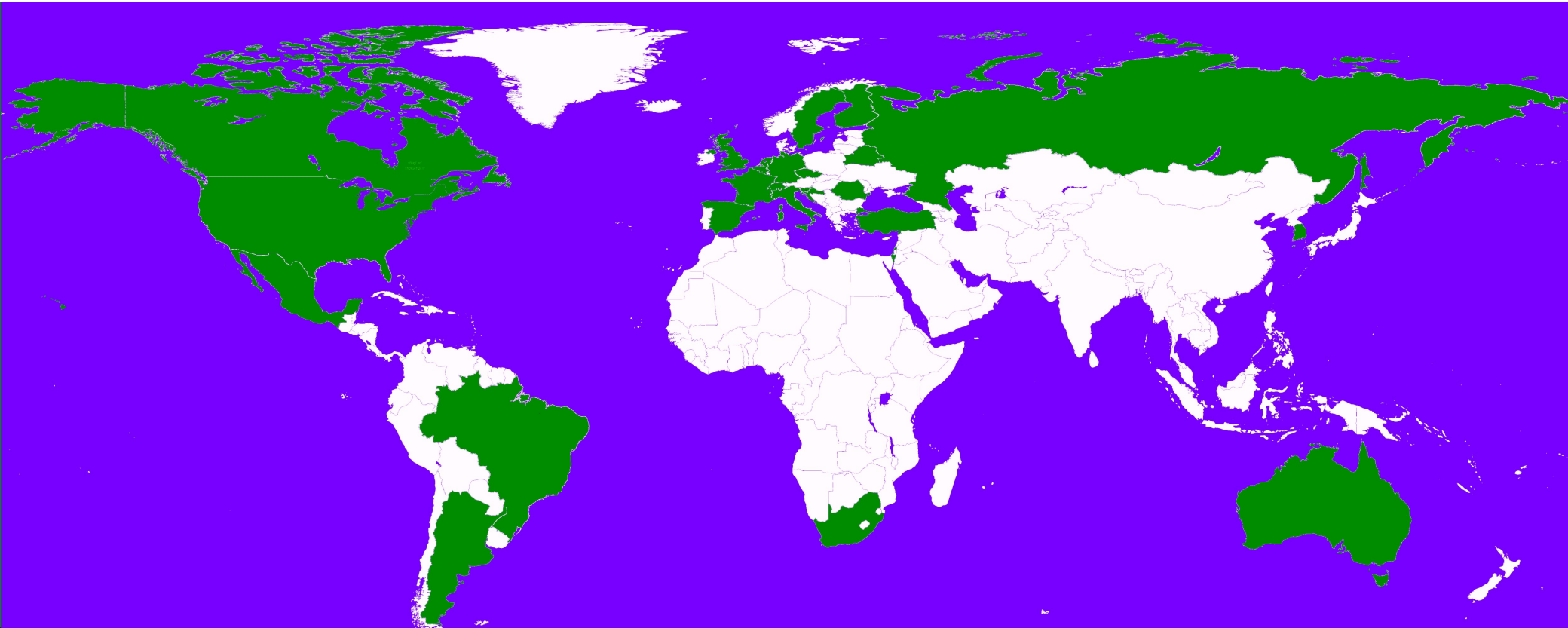
Serpent website – <http://montecarlo.vtt.fi>

Discussion forum – <http://ttuki.vtt.fi/serpent>

Introduction to Serpent

- Brief history:
 - Development started in 2004
 - Doctoral thesis 2007 (predecessor of Serpent called "PSG")
 - Burnup calculation capability in 2008
 - Public distribution at OECD / NEA Data bank in 2009 and RSICC in 2010
 - Development of Serpent 2 started in October 2010
- Serpent 1 has about 180 registered users in 76 universities and research organizations and 27 countries
- Beta-testing phase of Serpent 2 started in January 2012, and the test group consists of 54 users
- Public distribution of Serpent 2 scheduled for 2013-2014

Introduction to Serpent



Introduction to Serpent

- Serpent 1 can be characterized as a continuous-energy Monte Carlo reactor physics burnup calculation code
- Typical applications:
 - Group constant generation for deterministic reactor simulator codes
 - Fuel cycle studies at fuel assembly level
 - Research reactor modelling
- Typical user: Graduate or undergraduate student working on a Master's or Doctoral thesis
- Serpent 1 is not best choice for detector modeling or shielding applications
- Serpent 2 extends the capabilities to large burnup calculation problems, multi-physics, photon transport, etc. (more about this on Friday)

This meeting – participants and presentations

- 39 registered participants from 18 organizations
- 21 Technical presentations:
 - 30 minutes reserved per talk (leave some time for questions and discussion)
 - Upload your presentation before the session
 - I will put all presentations at the website after the meeting – if don't want to share your slides or need to make changes, let me know by e-mail
- Group photo on Thursday!

This meeting – topics for Friday

- 2 hours reserved for Demo and general discussion
- Demo is focused on new features in Serpent 2, if you want something specific demonstrated, let me know in advance!
- Suggested topics for discussion:
 - Questions and comments to developers
 - Suggestions and ideas for future work
 - Educational use of Serpent
 - Testing the multi-physics interface
 - Scripts: plotter, input conversion, production runs, etc...
 - Manual
 - International collaboration, student exchange, etc..
- I will make notes and post them at the website