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Course invitation

Verification of nuclear test explosions

The course *Verification of nuclear test explosions* is provided by *Uppsala University* in collaboration with the *Swedish Defence Research Agency (FOI)*.

Course information

- Level: Ph.D. course in physics, equivalent to 7.5 ECTS
- Duration: September-October 2024
- Location: On-site at Uppsala University, remote participation is also possible
- Format: Lectures ($\approx 14 \times 90$ min) and a laboratory exercise during week 39 in Uppsala
- Examination: Oral examination, hand-ins



Prerequisites

- Fundamentals of nuclear physics
- Basic programming skills, preferably in Python

After completing the course, the participant shall be able to

- Account for treaties and verification regimes governing nuclear weapons,
- Identify remote signatures from nuclear exposures and account for techniques used to detect such signatures,
- Have basic understanding of seismic detection for nuclear explosion monitoring,
- Account for processes that give rise to atmospheric radioactivity and techniques used to measure it,
- Analyze data of atmospheric radioactivity in order to discriminate between natural sources, contributions from civil nuclear power and nuclear test explosions,
- Perform calculations of particle diffusions in the atmosphere using dedicated software tools, and
- Perform a cross-disciplinary analysis of a nuclear test explosion scenario, where incoming information is analyzed and evaluated using statistical analysis.

Register to peter.andersson@physics.uu.se no later than August 1st,

- with the topic Nuclear Verification
- and including your name and affiliation
- Personal number (Swedish citizens), passport number (others).

Use the same email address for questions about the course.