

Nuclear Data Processing

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WANDA Workshop 3–5 March 2020

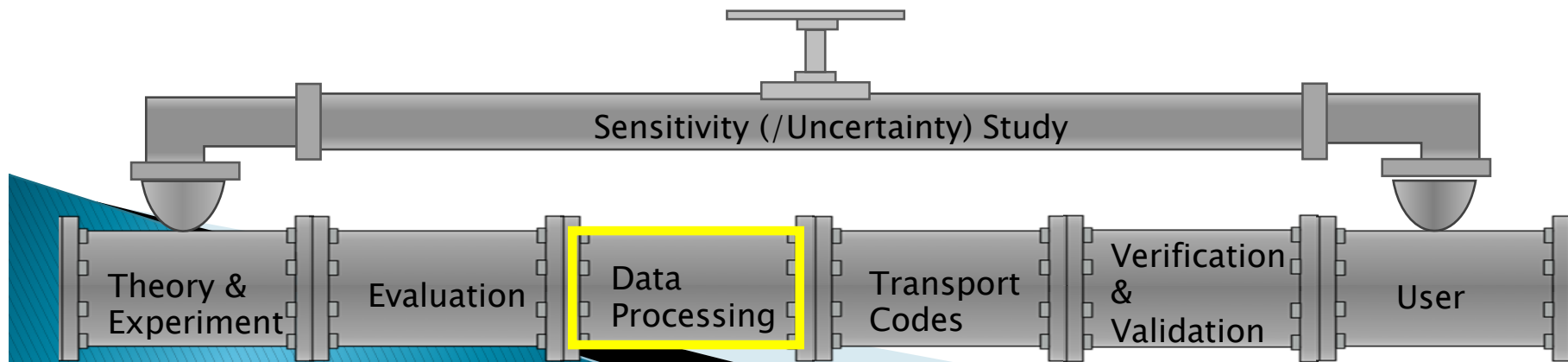
Nuclear Data Processing

- Processing codes:
NJOY (LANL), FUDGE (LLNL), AMPX (ORNL)
- Processing steps
 1. Read evaluated data
 2. Perform physics calculations
 3. Generate code-specific application data
- V&V of processed data
- Delivering data
 - Provide APIs
 - Interpreting
 - Plotting

Physics Calculations

(some of them)

- Resonance reconstruction
- Doppler broadening
- Secondary particle generation
- KERMA
- Radiation damage cross section
- Probability table
- Self-shielded cross sections
- Multi-group collapsing
- Covariance processing



Delivering Data to Codes

- New evaluated data requires updates to:
 - Processing codes
 - Application data formats
 - Transport codes
- Updates take time
 - Processing and transport codes need to know what has changed
- ENDF/B-VIII.0 example
 - $P(nu)$ with new format
 - Application data has no place for data
 - Transport can't use data

