CASL
Consortium for Advanced
Simulation of Light Water Reactors

Los Alamos
NATIONAL LABORATORY

Initial advanced model for boron analysis
simulation, showing concentration for a crud
situation where thickness increases linearly
(artificially imposed)

Los Alamos National Laboratory

A world-class, multidisciplinary research
and development institution focused
on national security missions, Los Alamos
brings to CASL particular strengths
in computational and material sciences.

Key contributions to CASL

- Materials science and multiscale leadership
- Models and numerical methods leadership
- Advanced computational architectures
- Advanced code development and integration
- Uncertainty quantification and statistical
  methods development and application

Key outcomes

- Accurate materials models and data,
  integrated into the Virtual Reactor (VR) simulation
  tool for science-based prediction

- Advanced thermomechanical, fluid dynamics,
  neutron transport, and other important methods
  integrated into the VR simulation tool

- Agile and portable VR simulation
  tool, from desktops to hybrid
  supercomputers

- In-line advanced statistical
  and validation methods

U.S. DEPARTMENT OF
ENERGY
Nuclear Energy