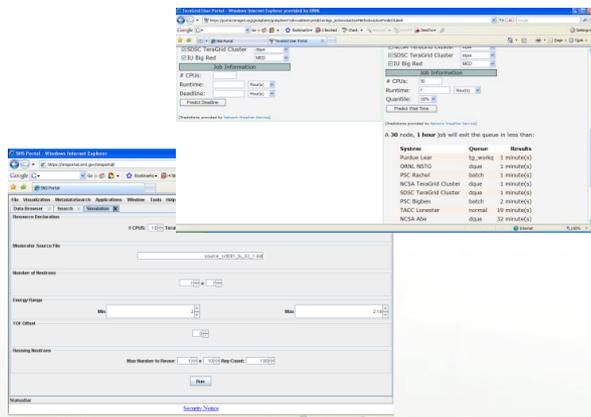


Neutron Science TeraGrid Gateway

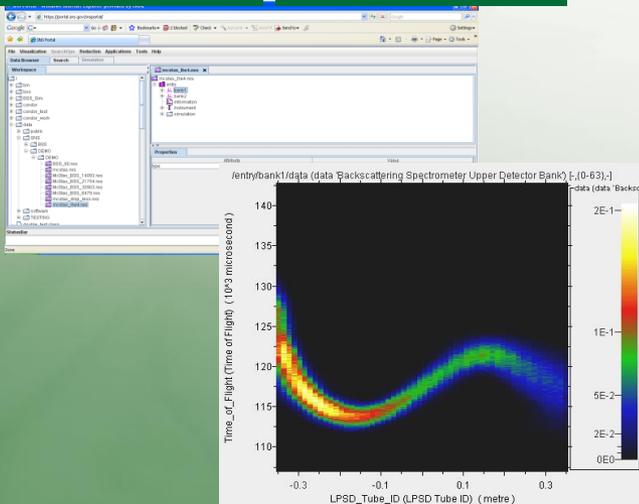
Modeling and Simulation Group

Computational Sciences & Engineering Division



“Jimmy Neutron”
TeraGrid
Community Account

“Jimmy Neutron”
X.509
Certificate



Problem Statement:

- Make parallel neutron science applications accessible through the Neutron Science Portal that utilizes the distributed computing resources of the NSF TeraGrid.

Technical Approach:

- Parallelize & optimize neutron science applications on the TeraGrid.
- Use Jimmy Neutron Community Certificate & Jimmy Neutron TeraGrid Community accounts to run applications from the Neutron Science Portal.

Benefit:

- McStas, a neutron ray-trace simulation package & fitting service is available with:
 - Improved performance with MPI parallel implementation
 - Standardized NeXus output
 - Improved visualization with Neutron Science Portal viewer

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