SAND2010-1560P

Some NRC Activities Pertinent to SARNET WP8

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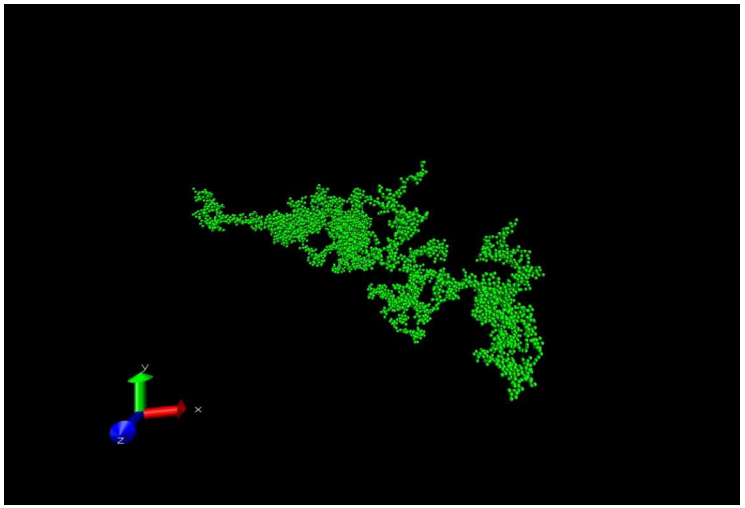
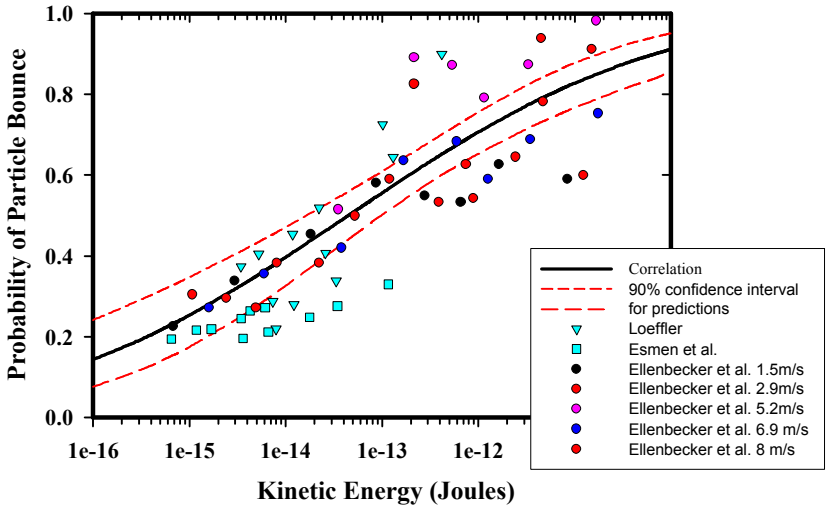
Overall Activities

- Accident Analyses
  - FPT2 and FPT3 with MELCOR
    - Much of the emphasis is now on iodine behavior rather than degradation and fission product behavior
- Accident Phenomenology
  - Aerosol Physics
  - Chemistry

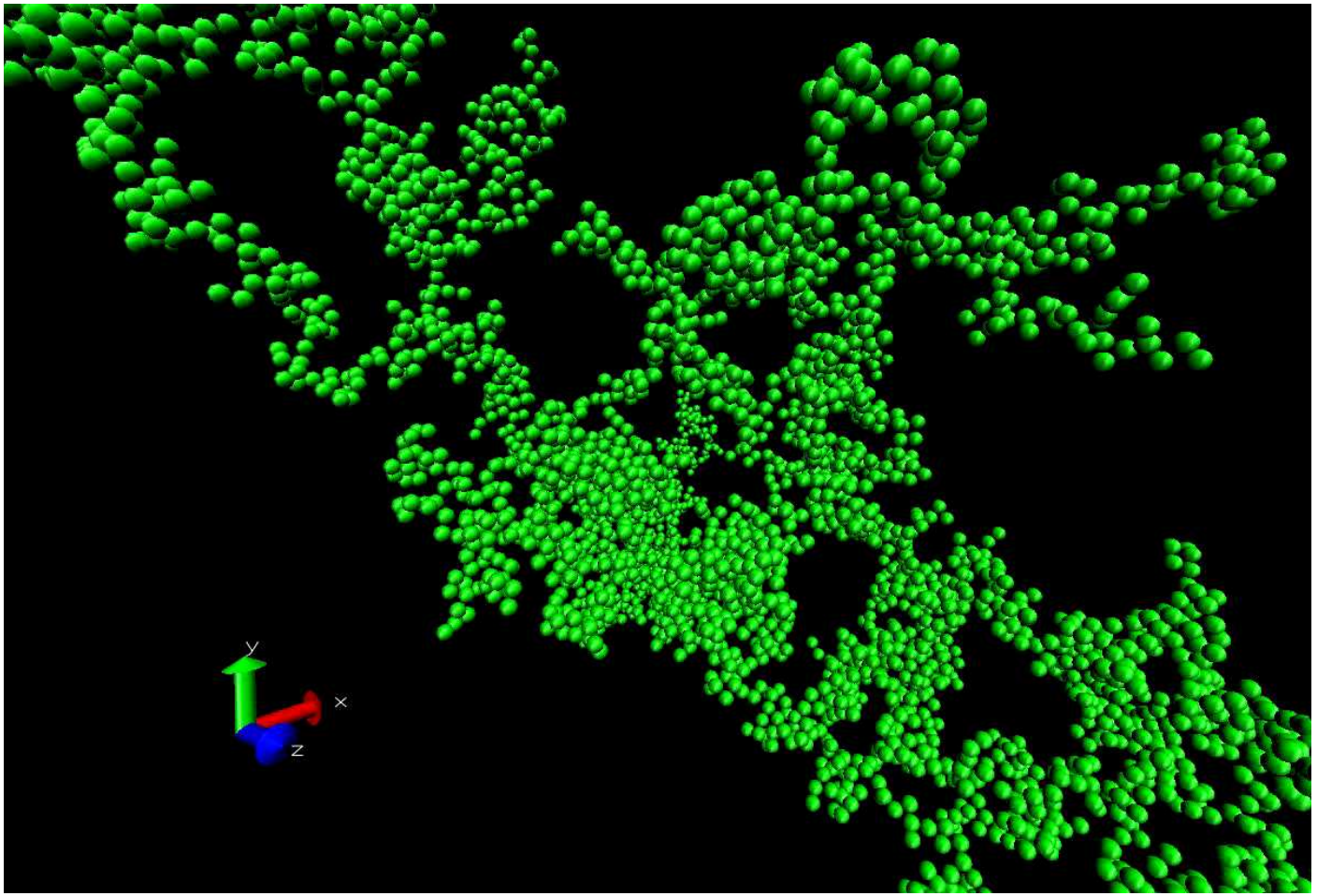
Aerosol Physics

- IO_x particles
  - Nucleation
  - Fractal growth
  - Sintering
- Particle breakup and bounce
  - Simulation tool that allows us to explore physics and identify critical test needs





Particle Impact - Slower



Containment Chemistry

- Vaporization of boric acid from hot water
  - Nonideality of $B(OH)_3$ (gas)
  - Nonideality of $B(OH)_3$ (aqueous)
- Adsorption of iodine ions on surfaces suspended in solution
  - Ability to shift equilibria by trapping iodide
- Aqueous chemistry of Mo, Ru