

Sparta + Elmer

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What each do Separately

Sparta:

- Simulates particles, making it excellent for rarefied flow.
- Simulate particle interactions with a solid surface.
- Can find forces and energy fluxes across a surface and its elements.

Elmer:

- Simulates solid body mechanics (i.e. deformation and heating).
- Can also simulate continuum flows, electro-dynamics, radiation, and more.

What they do Together

By coupling Sparta with Elmer it is now possible to:

- Use particle interactions with a surface to find heating and deformation.
- Dynamically update surface mesh in both Sparta and Elmer to accommodate the results of heating and deformation.

Diagram of the Operation

