Small Scale Diagnostics and Modeling Interface

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New Diagnostics Needs

- Optical diagnostics for intermetallic compounds and metals other than Al
- Absorption in reacting systems
  - Optical dept challenges
- Measurements of optical depth
- Light scattering for particle size/density
- Instrumented targets (non-optical)
Blue Pig Tests

- Blue Pig – type tests have become an important decision-making tool
- There is a need for a small scale test that simulates the Blue Pig environment for rapid screening of potential candidate materials (esp. high density materials), including:
  - Tests that simulate the thermal profile of the projectile components and quantify reaction
  - Tests that replicate portions of the BP tests to isolate where reaction occurs
Modeling

- Need modeling on BP type tests (e.g. SHAMRC) to assist in interpretation of measurements.

- Modeling may also be useful in designing small-scale tests for materials screening before BP tests.