For the past decade, Kratos SRE has been a leading pioneer in developing precision metrology devices for inspection and characterization of materials for industrial applications, as well as space flight qualification of materials and structures. Methods include automated measurements using optical and LASER triangulation-based sensing techniques; many of these methods have been adapted to unusual environments for real-time analysis of the effects of temperature, humidity, and time on materials and structures.

We have developed unique data reduction algorithms for rapid display and analysis of measurement parameters, particularly in the area of shape factors for quantifying deviations from anticipated geometry. Applications for precision metrology include: environmental effects on dimensional stability; thermal effects on dimensional stability; surface contour profiling; and unique or limited access geometry evaluation.
Kratos SRE offers the following equipment and capabilities in dimensional metrology and shape capture:

- Traditional hand measurement tools (e.g., micrometers, calipers, and hole gages)
- 36” digital height gage with 6-1/2 digit measurement capability
- Articulating CMM with laser line probe and touch probe
- Unique 3-axis surface mapping systems
- 3D Measurement and Analysis
- Strain Field Visualization
  - Non-contact optical full field strain during mechanical testing
  - 2D/3D capabilities, 0.2” to 14” fields of view
  - 3D mechanical and thermal testing up to 2400°F for select tests
  - Expanding capabilities to include 2D microscopic fields of view
  - Two-sided strain capture possible
  - High-speed capture available
- Strain Field Visualization
- Traveling microscope
- Fiber diameter measurement
- Dimensional analysis of micrographs, images, and radiographs
- Dimensional analysis of Computed Tomography (CT) and MicroCT
  - Volumetric metrology
  - Porosity measurements
  - Inter-ply versus intra-ply analysis
  - Customized analysis