

As part of its work to develop high-temperature thermal barrier coatings for coal-gas-fired gas turbines, Argonne National Laboratory has developed the non-contact polarized laser backscatter method.

In a cooperative effort with the University of Pittsburgh, the ANL back scatter data have been demonstrated to correlate to number of thermal cycles of the thermal coating, as well as to destructive data obtained at the University of Pittsburgh.

These are important findings, as the University of Pittsburgh is developing failure prediction models and the ANL data show significant correlations.

The end result could be a method to predict failures, thus avoiding high costs associated with unscheduled shut-downs.

[Read more about his work.](#)