

NONDESTRUCTIVE EVALUATION OF SURFACE-TREATED MATERIALS

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OBJECTIVE

Development of laser-ultrasonic and thermoelectric NDE methods for residual stress assessment in surface-treated materials.

TECHNICAL CHALLENGE

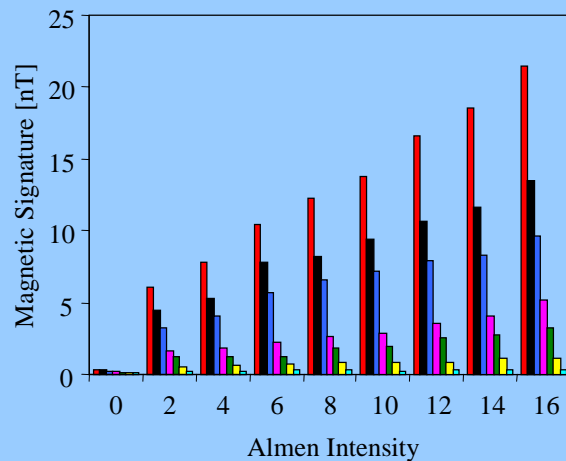
Overcome the spurious effects of surface roughness, cold work, and texture.

BENEFITS

Nondestructively evaluating the subsurface residual stress could help determining whether the material has adequate remaining fatigue life.



Decaying magnetic signature in relaxed shot-peened specimens



Turbine Engine Life Extension for Fracture Critical Components in Fielded Engines (US Air Force)

Laser-Ultrasonic NDE



Surface wave velocity dispersion on shot-peened surfaces

