

ELECTRICAL CABLE TESTING BY PULSE-ARRESTED SPARK DISCHARGE (PASD)

US Pat. No.: 6,853,196

Technology Readiness Level: 8

Actual technology completed and qualified through test and demonstration

Sandia has developed an advanced electrical wiring diagnostic capable of detecting insulation defects in complex wiring systems. The portable diagnostic system detects and accurately locates hard to find insulation defects such as breached insulation, chaffing, and insulation cracks. PASD could greatly reduce the time required to track down wiring defects, as it can typically locate these defects within inches.

The PASD technique uses a high-voltage, low-energy, short pulse to induce an electrical spark breakdown at the site of an insulation defect. The pulse energy is insufficient to damage to insulation or the conductors within the wiring systems. PASD has been demonstrated to be effective in several challenging environments and has consistently detected wiring system defects which cannot be seen through visual inspection.



TECHNICAL BENEFITS

- Detects and locates insulation defects in complex wiring systems
- Portable automatic system
- Nondestructive diagnostic
- Typically locates defects within inches
- Detects faults which cannot be seen through visual inspection

INDUSTRIES & APPLICATIONS

- Aircraft and aerospace
- Communications
- Construction and maintenance
- Electric utility
- Mining
- Nuclear power
- Oil and gas