



## **Trillium 360 Seismometer Initial Test Results**

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Test results for Trillium 360 show this seismometer can resolve the Peterson New Low Noise Model down to 300 seconds period. This has been confirmed at multiple sites: Pinon Flat (California), Albuquerque Seismological Laboratory (New Mexico) and Nanometrics (Ottawa, Canada).

The Pinon Flat deployment captured the March 2, 2016  $M_w=7.9$  Indonesian event and showed a response coherent with reference sensors including an STS-1 at periods down to 0.0015 Hz. At frequencies below 0.0015 Hz the reference sensors showed a noncoherent spurious response, i.e. noise in the presence of signal, whereas the Trillium 360 was relatively unaffected.

Magnetic sensitivity has been measured to be  $\sim 0.01$  m/s<sup>2</sup>/T in two independent tests at ASL and Nanometrics. Temperature sensitivity is  $\sim 3 \cdot 10^{-4}$  m/s<sup>2</sup>/T. This combination of low sensitivity to both magnetic field and temperature is achieved through magnetic shielding which resolves the side effect of magnetic sensitivity in temperature-compensated ferromagnetic spring alloys.

The T360 seismometer components are sufficiently miniaturized for deployment in a borehole. This enables low-noise performance even in an urban environment with thick sediments (at Nanometrics, Ottawa) since the seismometer can be emplaced in bedrock below surface sediments and away from surface noise.