



Initial Test Results for Trillium Slim Borehole 120, A New Small-Diameter High-Performance Seismometer

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The new Trillium Slim Borehole 120 seismometer is a 104 mm diameter instrument with Trillium 120QA/PH class performance having significantly improved SWaP (size, weight and power). It is designed for smaller holes down to 4.5" or 115 mm diameter, in shallow or deep deployment, using a simple passive holelock or sand installation. The small diameter permits deployment in existing small boreholes, and facilitates construction of new lower cost boreholes, minimizing disturbance of the surrounding rock and improving instrument coupling.

We present initial test results for this instrument in small and large diameter cased holes, direct burial, and side-by-side pier testing.

High performance with simpler logistics makes the Trillium Slim Borehole well suited for many applications, including new higher-density arrays for full waveform analysis and detection of earthquake gravity signals. In conclusion we present a proposed array design for optimal measurement of earthquake gravity signals on a regional scale.