



## **Testing the Lower Thresholds of Broadband Seismometers**

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Properly testing broadband seismometers for self noise and other intrinsic parameters like cross axis rejection is not an easy task. On the one hand such tests are strongly affected by the seismic noise generated by the Earth itself. The intensity of this noise is usually much higher than the self noise of the sensor. In addition the Earth's noise not only varies in time but also at any given time across the passband of the sensors, usually between 100 sec and 100 Hz. In addition there exist only very few shake tables capable of generating movements precise and stable enough to test the lower thresholds of broadband sensors. The influence of seismic noise and poor shake tables may render testing information about the lower thresholds of broadband sensors meaningless. We have applied several new techniques and developed our own to improve the quality and validity of such tests, including designing and building our own precision one axis shake table. We will present results from these testing procedures, amongst them the determination that the cross axis rejection between the horizontal and the vertical components of Guralp CMG-3T broadband sensors regularly exceeds 70 dB.