

Abstract

We tested if data from a modern portable 6 DOF station can be used to determine source parameters, including epicenter location and even the ruptured fault plane. We used a 2018 Mw6.4 Hualien earthquake as an example. The 6 DOF station is located at the center of Nanao Array, a 7-element seismic array that allows us to compare the direct measurements of ground rotation rate from a BlueSeis sensor to that derived from the arrayed translational seismograms. Excellent fits show the rotation rate data are of high quality. Detailed analysis shows that modern portable 6 DOF stations can provide high quality data, allowing rapid determination of earthquake location and even ruptured fault plane in some cases.