

Stability of GNSS Monumentation: Analysis of co-located monuments in the Plate Boundary Observatory [Talk; 2014]

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Title: Stability of GNSS Monumentation: Analysis of co-located monuments in the Plate Boundary Observatory

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Summary:

Geodetic-quality permanent GNSS stations have used a number of different monumentation styles for the purpose of ensuring that the motions of the GNSS antenna reflect those of the Earth's crust while minimizing non-tectonic motions near the surface. To increase the understanding of monument stability of various monument styles in diverse geologic conditions UNAVCO has constructed two additional monuments at five existing Plate Boundary Observatory stations during the past year. Deep drilled-braced, short drilled-braced, and single mast type monuments were installed at sites with bedrock at the surface; deep drilled-braced, short driven-braced and pillar type monuments were installed at sites with alluvium or soil at the surface. Sites were selected that comprised a variety of geographic, hydrologic, and geologic conditions. The resulting set of 10-meter spaced monument triangles will yield valuable information regarding the stability of their types in different settings. Sub-millimeter results from UNAVCO's short-baseline processing efforts will be presented showing further details of monument performance site characterization.



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