

Results from the US NACT R&D Testbed Infrasound Array

Previously, no US-based facility existed for year-round testing and evaluation of infrasound equipment and designs in the field. The US Nuclear Arms Control Technology (NACT) R&D Testbed at the Sandia National Laboratories (SNL) FACT site has therefore been designed so infrasound equipment and designs can be tested in a realistic environment before they are deployed at IMS stations. In March 2016 the University of Alaska Fairbanks and SNL installed a 4-element infrasound array at FACT. Two of these elements serve as “focus elements” with multiple wind noise reduction systems (WNRS): a rosette pipe array and polyethylene hose system. At these elements, a single digitizer powers two Chaparral 50A sensors (connected to a separate WNRS), two reference sensors, and a meteorological system. A related project installed a 6 m wind noise reducing dome at one of the focus elements. The other two elements have only the polyethylene hose system deployed. Seismic elements will be installed in late 2016. Here we present preliminary results from the FACT site infrasound array. In situ frequency response techniques are used to evaluate the frequency response of the different noise reduction techniques and sensor performance. Noise reduction is also compared between the different systems.

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