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Index Terms:

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Sulfur Dioxide Emissions from Bezymianny Volcano, Kamchatka: Results from the 2007 Field Season

Bezymianny volcano, Kamchatka, Russia, is one of the most active volcanoes in the Aleutian-Kamchatka-Kurile volcanic zone and has had over 48 explosive eruptions since its paroxysmal eruption in 1956. In August 2007, volcanic sulfur dioxide (SO<sub>2</sub>) emissions were measured at Bezymianny using a FLYSPEC ultraviolet spectrometer system. Measurements were systematically collected on eleven days using both stationary scanning and aerial traverse modes. Flux rates (tonnes per day) of SO<sub>2</sub> were calculated using measured column densities, wind speeds, and plume widths. These are the first ground and air based measurements collected from Bezymianny in over two decades. These data, as well as data collected in subsequent field seasons, will be used to generate a baseline emission dataset for the volcano to allow changes in activity to be detected. Secondary objectives of this project include validating remotely sensed data from satellite sensors including the Ozone Monitoring Instrument (OMI), the Moderate Resolution Imaging Spectroradiometer (MODIS) and the Advanced Spaceborne Thermal Emission and Reflection Radiometer (ASTER). Preliminary results from the 2007 field season and future work will be presented in this poster.