

## Sulfur Dioxide detection by Broadband Cavity Enhanced Absorption Spectroscopy

A new Broadband Cavity Enhanced Absorption Spectrometer (BBCEAS) for measuring SO<sub>2</sub> was developed. BBCEAS allows for the realization of long absorption path lengths to attain sub - ppb limits of detection. SO<sub>2</sub> is measured by the absorption bands from 300 - 320 nm using Differential optical absorption spectroscopy to remove interferences that are common to other SO<sub>2</sub> measurements such as fluorescence. The BBCEAS instrument was tested at various concentration levels of SO<sub>2</sub> against a Thermo 42c SO<sub>2</sub> instrument and was also used to measure ambient SO<sub>2</sub> levels in Richfield, UT.