

APPLICATION NOTE: CEMS CONTINUOUS EMISSION MONITORING SYSTEMS



Environmental pollution in China

Environmental preservation in China has been closely examined in recent times, and there is increasing concern about reducing environmental pollution.

Industrial gas emissions have contributed enormously to the air pollution and must be monitored continuously. In China there are several companies which develop and manufacture CEMS (Continuous Emission Monitoring System). CEMS is used to do the air pollution measurement. These systems monitor the concentration of industrial gases and suspended particles emitted from air pollution sources. UV spectrometers are integrated to the CEMS used for calculating the absorption of SO_x/NO_x. Over 200 CEMS systems do have 'Avaspec inside' and we expect this to be multiple in the future.

These AvaSpec spectrometers have high demands regarding straylight, optical resolution, stability and sensitivity. The AvaSpecULS2048x16 has proven to be a very good choice for this application. This is because this device has a very high quantum efficiency and SNR(500:1) in the UV range, besides it has a lower stray light. DOAS (Differential optical absorption spectroscopy) is one of the techniques which is used in these systems.

A typical CEMS using DOAS

