

## **Study on Concentration and Temperature Measurement with 760 nm Diode Laser in Combustion System Using Tunable Diode Laser Absorption Spectroscopy**

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**Abstract :** It is important to measure the internal temperature or temperature distribution precisely in combustion system to increase energy efficiency and reduce the pollutants. Especially in case of large combustion systems such as power plant boiler and reheating furnace of steel making process, it is very difficult to measure those physical properties in detail. Tunable diode laser absorption spectroscopy measurement and analysis can be attractive method to overcome the difficulty. In this paper, TDLAS methods are used to measure the oxygen concentration and temperature distribution in various experimental conditions.

**Keywords :** tunable diode laser absorption Spectroscopy, temperature distribution, gas concentration

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