

## QUANTITATIVE INTENSITY MEASUREMENTS IN THE USE OF INFRARED KINETIC SPECTROSCOPY TO INVESTIGATE COMBUSTION RADICAL KINETICS

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Infrared kinetic spectroscopy is a powerful tool for investigating the kinetics of the free radical reactions of importance in combustion. In the simplest case of pseudo first order kinetic measurements, the quantitative intensity measurements required are quite easy. However, in several situations such as the measurement of second order reaction rates, the measurement of reaction branching ratios or the measurement of rates by competition, such quantitative intensity measurements are necessary. Furthermore, they often involve the conversion of an absorption measurement on a transient free radical, which cannot be prepared as a stable sample of known concentration, into its concentration. The issues involved in making intensity measurements and in the calibration of molar extinction coefficients will be discussed, and some of the approaches that are used to carry them out will be described.