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Titel des Beitrags:
A new approach for fast, simultaneous NO/NO2 analysis: application of basic features of multiphoton-induced ionization and dissociation of NO(x)

Abstract:
A new method of simultaneously recording NO and NO2 concentrations in complex gas mixtures is described. This method is based on resonance enhanced multiphoton ionization (REMPI), on time-of-flight mass analysis, and on monitoring the kinetic energy released upon dissociation of NO2. Its benefits are high speed and high flexibility. NO/NO2 analysis can therefore be combined with the simultaneous monitoring of other components. For instance, NH3 is a compound of interest when studying the chemical reactions of NO(x) in catalytic converters of combustion engines. The spectroscopic excitation schemes used for this new method are discussed in detail. Its reliability has been demonstrated by performing measurements at an industrial motor test facility. This novel technique performs well in comparison with conventional NO(x) analysis using chemiluminescence detection.[on SciFinder (R)]

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