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Atmos. Chem. Phys., 2, 227-234, 2002  
www.atmos-chem-phys.net/2/227/2002/

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## The UV-visible absorption cross-sections of IONO<sub>2</sub>

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**Abstract.** The UV-visible absorption spectrum of gaseous IONO<sub>2</sub> has been measured over the wavelength range 245--415 nm using the technique of laser photolysis with time-resolved UV-visible absorption spectroscopy. IONO<sub>2</sub> was produced in situ in the gas phase by laser flash photolysis of NO<sub>2</sub>/CF<sub>3</sub>I/N<sub>2</sub> mixtures. Post flash spectra were deconvolved to remove contributions to the observed absorption from other reactant and product species. The resulting spectrum attributed to IONO<sub>2</sub> consists of several overlapping broad absorption bands. Assuming a quantum yield of unity for IONO<sub>2</sub> photolysis, model calculations show that during sunlit hours at noon, 53° N, the first order solar photolysis rate coefficient (J value) for IONO<sub>2</sub> is 4.0 × 10<sup>-2</sup> s<sup>-1</sup>.

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