UV AND 532 NM PHOTODISSOCIATION OF O-NITROTOLUENE: DETECTION OF ELECTRONICALLY EXCITED NITRIC OXIDE IN NITROGEN AND ARGON

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It is well known that NO is one of the main fragments produced by photodissociation of o-nitrotoluene. We detected vibrationally-excited NO in ground and electronically excited states using LIF. We also observed emission due to the formation of C(I) which is overlapping with NO emission. In the presence of N_2, longer lifetime of the NO emission is observed showing evidence of energy transfer from highly excited N_2. In the presence of Ar, evidence of o-nitrotoluene-Ar cluster formation was observed.