

Population dynamics in ionized nitrogen molecule: evidence of laser without inversion

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A nitrogen gas pumped by near-infrared femtosecond pulses gives rise to a coherent emission at 391.4 nm due to transitions between ionic levels. For the first time, we experimentally analyze the temporal evolution of the populations of N_2^+ levels involved in this lasing process. To visualize this dynamics, we measure the transmission of a high harmonics source through N_2^+ .

Topics

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