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## Measurement of Photoionization Rates and Quenching Pressures

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Many computational codes that involve transient plasmas, incorporate photoionization rates to describe the evolution of such phenomena as streamer development and propagation. At near atmospheric pressures, photoionization rates decrease significantly due to collisional quenching. The collisional quenching is the process where an excited molecule returns to the ground state non-radiatively at higher pressures. In air discharges, the nitrogen molecule is typically the excited molecule that is responsible for photoionizing oxygen, and oxygen is the quenching molecule. There are concerns that the currently widely-used photoionization models significantly overestimates the photoelectron production which is typically attributed to the quenching pressure of the radiative states. Progress on measurements of the photoionization rates and the onset of collisional quenching are reported along with progress in the model development suitable for inclusion in computational codes.

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