

Neutral bremsstrahlung emission spectrum in argon

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The interaction of an electron with the dipole field of a neutral atom or molecule can lead to radiative photon emission by analogy with the familiar case of Nuclear Bremsstrahlung. This process is referred to as Neutral Bremsstrahlung and is possible even in noble atoms due to their induced dipole moment. Neutral bremsstrahlung in noble gases has been neglected in favor of excimer-based Vacuum-Ultraviolet emission, being only recently studied in argon and xenon. In this study, we present preliminary results of the neutral bremsstrahlung emission spectrum obtained experimentally in pure argon at 1.2 bar, covering the 150–550 nm wavelength range, and under reduced electric fields within the 0–2 kV/cm/bar range.

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