

Abstract Submitted  
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**Electron swarm transport coefficients in mixtures of H<sub>2</sub>O with He and Ar: Experiment and Boltzmann equation calculations**<sup>1</sup> JAIME DE URQUIJO, Universidad Nacional Autónoma de México, E. BASURTO, None, A.M. JUAREZ, Universidad Nacional Autónoma de México, KEVIN NESS, ROBERT ROBSON, James Cook University, MICHAEL BRUNGER, Flinders University, RON WHITE, James Cook University — The drift velocity of electrons in mixtures of gaseous water with helium and argon are measured over the range of reduced electric fields from 0-300Td using a pulsed-Townsend technique. Small admixtures of water to both helium and argon are found to produce negative differential conductivity (NDC), despite NDC being absent from the pure gases. Comparison of the measured drift velocities with those calculated from a multi-term solution of Boltzmann's equation provides a further discriminative assessment on the accuracy and completeness of electron water vapour cross-sections.

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