

Abstract Submitted  
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**Modeling of Electronegative Discharges** DEREK D. MONAHAN,  
MILES M. TURNER, Dublin City University — Modeling electronegative discharges  
has been a persistently contentious topic for several years past. In this paper, we  
show results from an extensive simulation survey of electronegative discharges, span-  
ning a wide range of collisionality, electronegativity and negative ion destruction  
mechanism. We further consider how these simulation results are best represented  
by simple zero-dimensional formulations with the character of global models. Vari-  
ous transport models have been proposed for these conditions. We show that one of  
the simplest such models is mostly adequate, and indeed that considerations such  
as the form of the electron energy distribution function, and other factors usually  
neglected, such as the negative ion temperature, are usually more significant than  
the details of the transport model.

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