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**A global model study of oxygen discharges – formation and annihilation of the singlet molecular metastables and effects of the electron energy distribution function<sup>1</sup>** MARISA ROBERTO, DAVID ARRUDA TONELI, Technological Institute of Aeronautics, Sao Jose dos Campos 12228-900, Brazil, RODRIGO SAVIO PESSOA, Paraiba Valley University, Sao Jose dos Campos 12244-000, Brazil, JON GUDMUNDSSON, University of Iceland, Reykjavik IS-107, Iceland and KTH Royal Institute of Technology, Stockholm SE-100 44, Sweden — A revised reaction set for oxygen plasma modelling was implemented in a volume average global model that considers only Maxwellian electron energy distribution function. The results showed that the state could be present in the discharge in amounts higher than the state. A further study has been realized through changes in the electron energy distribution function. Differences in the results calculated using Maxwellian and non-Maxwellian distributions demonstrate the importance of using a proper electron energy distribution function in plasma modelling.

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