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Kinetics of Charged Particles in CF CF_4 at High Values of Reduced Electric Field[1] ZORAN PETROVIC, VLADIMIR STOJANOVIC, NIKOLA SKORO, DRAGANA MARIC, ZORAN RASPOPOVIC, Institute of Physics University of Belgrade, P.O.B. 68, 11080 Belgrade, Serbia — In this work we present results of our study of charged particle transport in dark Townsend discharges in CF_4 Monte Carlo technique, based on null collision method, already used for similar discharges in nitrogen, argon and hydrogen is used to obtain spatially resolved transport parameters for a range of reduced electric fields (E/N) from 700 Td to 20 kTd (1 Td=10^{-21} Vm^2). In this work we focus on anisotropic scattering of electrons and we also obtain a consistent set of cross sections for ions and fast neutrals. Apart from the agreement of experimental and Monte Carlo results for electron and ion transport data, agreement with experimental results for spatially resolved optical emission and ionic energy distribution functions at high values of E/N is achieved.

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