

INFLUENCE OF THE PRESSURE AND GAS TEMPERATURE ON OZONE GENERATION

M. BENYAMINA, I.KACI, H. LOUKIL, R. KHADIR and A.BELASRI

*Laboratoire de Physique des Plasmas, Matériaux Conducteurs et leurs Application Université
des Sciences et de la Technologie d'Oran EL M'NAOUR B.P. 1505, 31000 Oran, Algérie*

ABSTRACT. Ozone has become a subject of several technical applications such as disinfection, the treatment of color removal, purification of water and decomposition of volatile hydrocarbons. Due to its numerous applications more research have been done to improve ozone generation rates in pure oxygen and air. The objective of our study is to produce ozone in the N_2/O_2 mixture by using pulsed corona discharge. The model represents a homogenous pulsed corona discharge. It can describe the fundamental chemistry and physics governing the discharge behaviour, and can predict the production of ozone under various operating conditions. The model takes into consideration 117 reactions involving 19 species. The results of simulation show the effect of pressure and gas temperature on ozone generation.

KEYWORDS: *pulsed corona discharge, O₃, gas temperature, pressure effect, air.*