

# Turkish Journal of Physics

Turkish Journal



of

Physics

Influence of Medium on Generation of Localized Charges in BeO by the Exposure of the Electrical Discharge in Air and Oxygen

M. M. ALIYEV

Radiation Research Sector of Azerbaijan Academy of Sciences,  
H. Javid av., 31a, 370143 Baku-AZERBAIJAN REPUBLIC

 [Keywords](#)  
 [Authors](#)



[phys@tubitak.gov.tr](mailto:phys@tubitak.gov.tr)

[Scientific Journals Home](#)  
[Page](#)

**Abstract:** The EPR-method is used to investigate the regularity of the formation of paramagnetic  $F^+$ - and  $V^-$  centers (PC) in BeO which are generated by barrier electrical discharge (ED) in air and oxygen under reduced pressure. It was determined that, at different powers of discharge or parameters E/P, the maximums of kinetic curves of PC- accumulation in oxygen in comparison with air plasma forming medium are changed with respect to both their value and position, depending on the interaction of oxygen atoms and ions  $O$ ,  $O^+$ ,  $O^-$ ,  $O_2^+$ ,  $O_2^-\dots$  with BeO surface. These exposures resulted in decreasing rate of generation of  $F^+$ -and  $V^-$  centers in oxygen plasma in comparison with discharge in air (at  $t > t_{max}$ ) and the difference of their concentration in the stationary region ( $t \rightarrow \infty$ ) of PC- accumulation curves for the same E/P.

---

Turk. J. Phys., **22**, (1998), 333-342.

Full text: [pdf](#)

Other articles published in the same issue: [Turk. J. Phys., vol.22,iss.4.](#)