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The Influence of the Dispersion of Boron Silicate on the Migration of Non-Equilibrium Charge Carriers Generated by Eect of an Electric Discharge

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**Abstract:** ESR was used in an investigation of the influence of Boron Silicate dispersion on the accumulation of paramagnetic centers (PC). It was observed that the rate of accumulation of PC increase by increasing of the grain size ( $r$ ). At  $r < 0.08$  mm the electrons ( $F^+$ -centers) are localized on the surface and with increasing grain size up to  $0.08 < r < 0.22$  mm charge stratification takes place, the electrons are distributed in near-surface layer and the holes (V-centers) are localized in the bulk of the insulator. It was established that the transport of non-equilibrium charge carriers (NCC) from the bulk to the surface of Boron Silicate was due to a drift from the depth ( $d \sim 10 \mu m$ ) to a bulk-charge field generated by an electric discharge. The value of the surface field  $E_s \sim 10^5$  V/cm is determined by experimental results of the data. The kinetics of the isothermal annealing (300 K) are used to establish the influence of the surface field on the annihilation of NCC in the "dead" layer of separated charges.

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