

CHARGE ACCUMULATION AND ELECTRIC FIELDS IN LAVA-LIKE FUEL CONTAINING MATERIALS

O. S. Zinets

The charge accumulation and electric fields due to internal radioactivity in lava-like fuel containing materials has been considered. It has been shown that macroscopic electric fields can be as large as 10^4 V/cm at the material surface and at the interface of a spherical inclusion - SiO₂ matrix for the total activity $1 \text{ GBk} \cdot \text{cm}^{-3}$. The mechanical stresses connected with such fields are small (10^2 Pa) and have a small influence on the material destruction.