DIELECTRIC MATERIALS FOR POWER TRANSFER SYSTEM

ABSTRACT

A contactless power transfer system is proposed. The power transfer system comprises a field-focusing element comprising a dielectric material. The dielectric material comprises a composition that is selected from the family of (Ba,Sr)TiO_3 or $CaCu_3Ti_4O_{12}$. The compositions of the (Ba, Sr)TiO_3 include the materials such as $Ca_{1-x-y}Ba_xSr_yTi_{1-z}Cr_zO_{3-\delta}N_p$, wherein $0 < x < 1$; $0 < y < 1$; $0 \leq z \leq 0.01$; $0 \leq \delta \leq 1$; and $0 \leq p \leq 1$. The compositions of the $CaCu_3Ti_4O_{12}$ include the materials such as $Ca_{1-x-y}Ba_xSr_y$ $(Ca_{1-z}Cu_z)Cu_2Ti_{4-\delta}Al_\delta O_{12-0.5\delta}$, wherein $0 \leq x < 0.5$; $0 \leq y < 0.5$; $0 \leq z \leq 1$; and $0 \leq \delta \leq 0.1$.

Figure 1