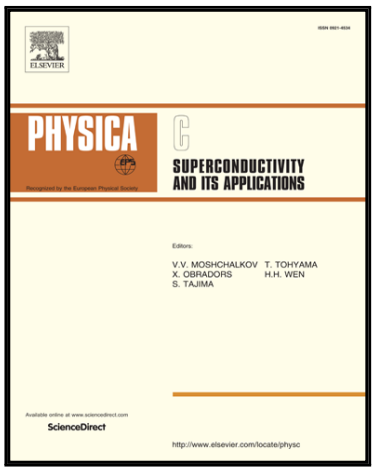

Phase Formation, Activation Energy and Superconductivity of MgO Nanoparticles Added $(Cu_{0.5}Tl_{0.5})Ba_2Ca_2Cu_3O_{10-\delta}$ Phase

M. Mumtaz , Liaqat Ali , Iftikhar Ahmad

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Highlights

- $(MgO)_x$/CuTl-1223 nanoparticles-superconductor composites were synthesized and characterized.
- Crystal structure of host CuTl-1223 phase was not changed with the addition of MgO nanoparticles.
- Superconductivity was suppressed with addition of MgO nanoparticles.
- Lower value of U (eV) predicted the weak flux pinning promoted by addition of MgO nanoparticles.