Abstract and Keywords

Development of Linear Low Density Polyethylene, (LLDPE)/High $T_c$ superconductor (YBCO) composites and their characterization for diamagnetic applications has been reported. High $T_c$ superconductors are projected as potential candidates for large scale electromagnetic shielding. YBCO is prepared by solid state sintering technique and LLDPE is blended in powder form with YBCO. The powder is then pelletized followed by sintering and quenching. Electrical and magnetic properties of the composites with various filler contents are investigated in detail. Morphology and microstructure of the composites are evaluated and discussed in detail. It has been found that the composites showed good magnetic levitation indicating the potential electromagnetic shielding applications of these composites.

Key words: Superconductors, composites, polymers.