The Harmonic wave propagation of an infinite pyrocomposite sandwich plate (SWP) made of two pyroelectric layers of class 6 bonded together by an isotropic Linear Elastic Material with Voids (LEMV) and the Axisymmetric / Flexural vibration of an infinite pyrocomposite solid/hollow cylinder made of inner solid / hollow and outer hollow pyroelectric layers of class 6 bonded together by a LEMV layer are studied. The frequency equations of the harmonic wave propagation of the SWP and Axisymmetric / Flexural vibration of solid / hollow pyrocomposite cylinder made of Ceramic-1/Adhesive/Ceramic-2 are derived for the traction free shorted surface(s) with continuity conditions at the interfaces. Numerical results in the form of data and dispersion curves are carried out in symmetric and anti-symmetric modes of vibration of the SWP and axial / flexural vibrations of the pyrocomposite solid/hollow cylinder by embedding a hypothetical LEMV layer between two barium titanate layers are respectively compared to a similar three layer model with an existing Carbon Fibre Reinforced Polymer (CFRP) as an interfacial layer between two barium titanate layers and as well to a uni-layered pyroelectric plate and solid / hollow cylinder.

The imaginary parts of the complex frequencies representing the damping is observed to be very low in the low and medium frequency range in all the three layered pyrocomposite models with LEMV/CFRP interface and uni-layered pyroelectric plate / cylinder in the respective type and modes
of vibrations. The damping or attenuating effect is observed to be not significant in the pyrocomposite three layered models when compared to the corresponding piezocomposite models and is due to the presence of voids in the interfacial region and thermal effect of the pyroelectric layers. However, the damping in the symmetric mode of vibration of the pyrocomposite plate with voids in the LEMV core and the axisymmetric / flexural vibrations of a single layered pyroelectric hollow cylinder are slightly higher than that in the antisymmetric mode of the vibrations of the SWP and axisymmetric / flexural vibrations of a uni-layered pyroelectric solid cylinder respectively.