**Abstract:**

The CuCoMn*X* (*X* = Si, Sn, Sb) equiatomic quaternary Heusler alloys (QHAs) are studied for phonon spectra by using density functional theory. The crystals exist in three possible structures Y-type I, Y-type II and Y-type III on the basis of their crystallographic positions. Y-type III structural arrangements proved to be the most stable and phonon density of states and phonon dispersion curves are obtained by using nonconserving pseudo-potentials for this type. There are no negative vibrational phonon modes in phonon density of states and phonon dispersion curves, so the alloys are dynamically stable. From the phonon dispersion curves, reststrahlen bands are calculated for which these crystals behave as reflectors for incoming light. The calculated reststrahlen bands are 1.470 THz (λ=203.94μm)(λ=203.94μm), 0.357 THz (λ=839.74μm)(λ=839.74μm) and 0.220 THz (λ=1362.69μm)(λ=1362.69μm) for CuCoMnSi, CuCoMnSn and CuCoMnSb alloys, respectively. These values correspond to far infra-red (FIR) spectral region so these alloys can be used for manufacturing FIR-devices.