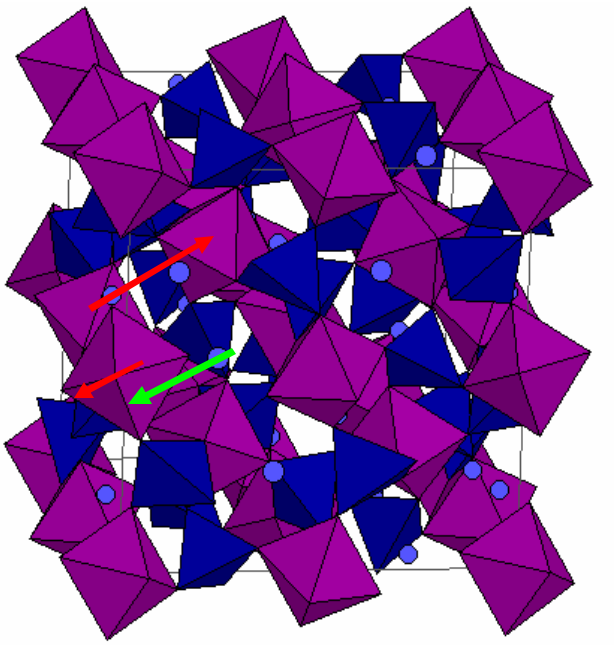
# Low-H Magneto-Dielectric Effect in an Iron-Garnet

**Achieving cross-control between spin and lattice/ferroelectricity is a functionality that has great promise for new electronic technologies. This has previously required large external stimuli such as tesla-range magnetic fields or 100 kV/cm-range electric fields. We have discovered a ~3 % positive magnetodielectric (MD) effect in 1-2 kOe in $Tb_3Fe_5O_{12}$. This large MD effect appears to be correlated with large magnetostriction in the compound. This is an important step toward device applications of multiferroics-related materials.**



Lattice displacements giving rise to magnetoelectric effect in $Tb_3Fe_5O_{12}$