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**GMAG Student Award Talk: Effects of high pressure, magnetic fields and substitutions on multiferroic systems**

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We have investigated various materials with regard to the effects of pressure, field, and substitution on their multiferroic properties. In $MnWO_4$ we find that replacement of $Mn^{+2}$ by $Fe^{+2}$ or $Zn^{+2}$ ions results in the suppression (Fe) or enhancement (Zn) of the ferroelectric (FE) phase. Novel effects are observed in external magnetic fields (H), for example the field-induced re–entrant FE/spiral magnetic phase in $Mn_{1-x}Fe_xWO_4$. The complete x-H-T phase diagrams are constructed for these compounds from polarization, dielectric constant, specific heat and magnetization data. The anisotropic Heisenberg model was solved to qualitatively understand the effects of substitution and field. The sensitivity of the FE polarization under high pressure was investigated. Pressure does suppress the FE polarization of $Ni_3V_2O_8$ and $MnWO_4$. In $YMn_2O_5$, however, external pressure did reverse the FE polarization at low T. We have conducted high resolution thermal expansion measurements revealing significant lattice anomalies and correlated these results with the observed pressure effects.