

**Room Temperature Multiferroic and Magnetoelectric Properties of Epitaxial  
Asymmetric Multilayer Heterostructures**

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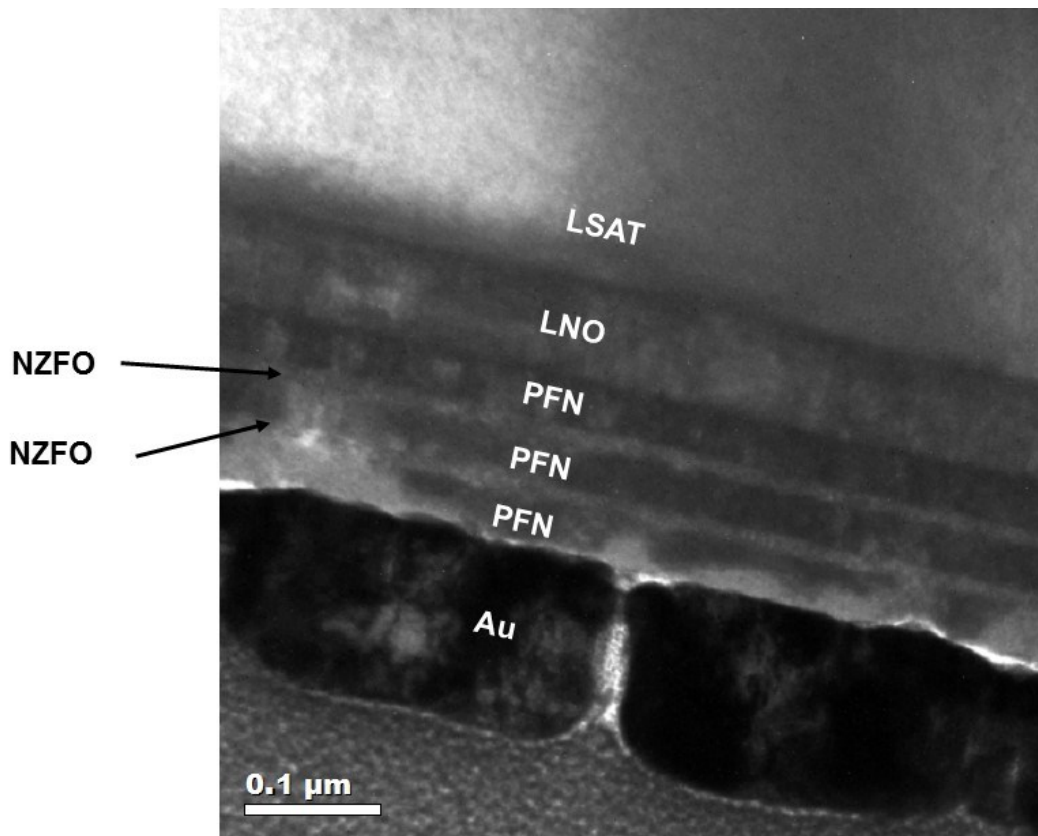
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## Supplemental Material S1

The cross-sectional TEM image of PFN/NZFO/PFN/NZFO/PFN heterostructures recorded at higher resolution (29 K).

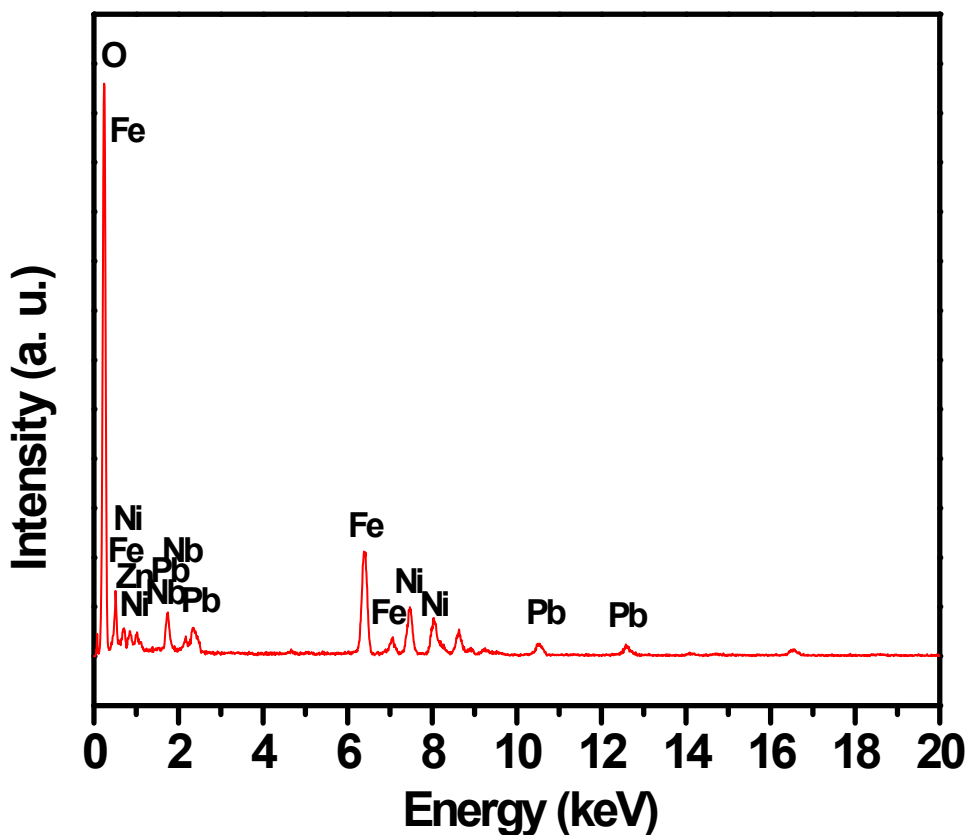


**Figure S1. Pradhan et al.**

**Fig. S1.** (Color online) The cross-sectional high resolution TEM image of a (00 $l$ ) – oriented PFN/NZFO/PFN/NZFO/PFN heterostructures deposited on LNO buffered LSAT substrates.

## Supplemental Material S2

Figure S2 depicts the STEM-EDS spectrum of the PFN/NZFO/PFN/NZFO/PFN heterostructures, showing the presence of all elements (Pb, Fe, Nb, Ni, Zn, and O) along with their respective characteristic x-ray emission lines. On the average, the Pb:Fe:Nb:Ni:Zn:O atomic ratio, estimated from the intensities of the respective characteristic lines, are in good agreement with the composition stoichiometry of the ceramic targets used to grow these heterostructures.



**Figure S2. Pradhan et al.**

**Fig. S2.** (Color online) EDS spectrum of PFN/NZFO/ PFN/NZFO/PFN multilayer heterostructures recorded at RT.