

SUPPLEMENTARY

Optical Excitation Effect on Magnetodielectric and Photodielectric Properties of Rare Earth doped ZnO:Na Nanoparticles

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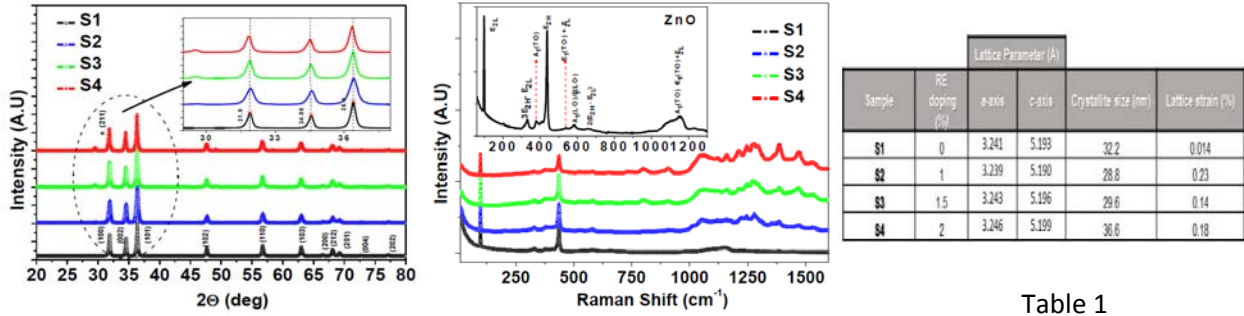


Fig.1

Fig.2

Table 1

Fig.1. XRD pattern for undoped ZnO (S1) and Na/Er/Yb doped ZnO with concentration shown in Table 1.
 Fig.2. Raman spectra at room temperature of undoped ZnO (S1) and Na/Er/Yb doped ZnO with concentration shown in Table 1.

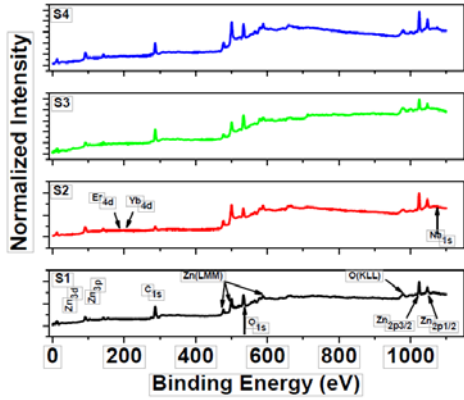


Fig.3

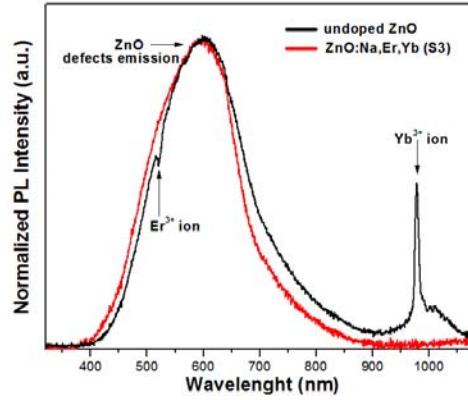


Fig.4

Fig.3. XPS spectra for $Zn_{1-2x}Na_xEr_{x/2}Yb_{x/2}O$ compounds.
 Fig.4 PL spectra of undoped ZnO (S1) and Na/Er/Yb doped ZnO (S3) measured at RT under 325 nm excitation.

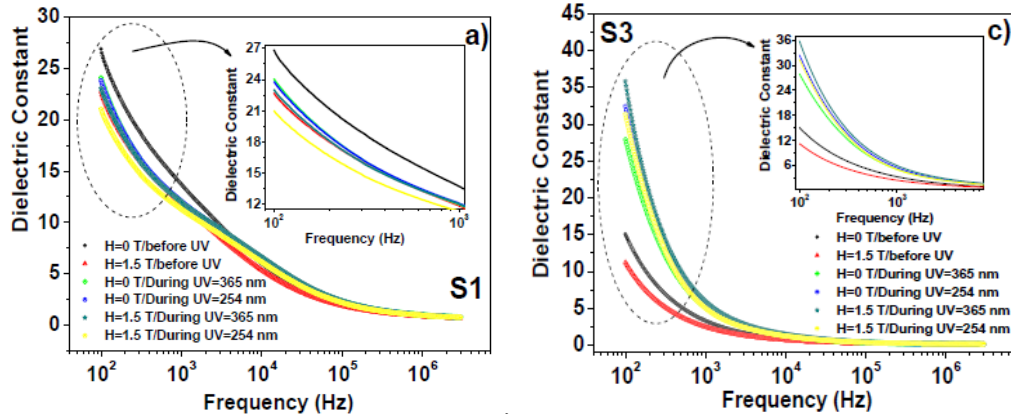


Fig.5 Dielectric permittivity as a function of frequency under an applied magnetic field and/or during UV light irradiation of (a) undoped ZnO (S1) and (c) Na/Er/Yb doped ZnO (S3) sample.