

Figure 3, shows that the reflectance of the films is generally very low in all the regions; maximum of 0.059=5.9% for the doped. Each doped film exhibits almost same level of reflectance in all the regions. The undoped has maximum reflectance of 0.066=6.6% in the visible region and decreases to minimum in the NIR. This low reflectance property makes the film a veritable material for antireflection coating. Reflectance of the films is inversely proportional to the percentage doping with cobalt. From figure 4, the lower percentage doping have high refractive indices while higher percentage doping have low refractive indices. 3% doping has refractive indices in UV (~1.64), VIS (~1.61), NIR (~1.61). 8% doping has ~1.57, 13% has in UV (~1.47), VIS (~1.48), NIR (~1.46). 18% has in UV (~1.39), VIS (~1.39), NIR (~1.40), 23% has in UV (~1.28), VIS (~1.27), NIR (~1.19). The undoped film has maximum refractive index (1.69) in the visible region and decreases to minimum (1.51) in the NIR. This property makes the film good material for multilayer antireflection coating and in film stack for colour selective coating. The refractive index of the films is inversely proportional to the percentage doping with cobalt. The optical properties viz; absorbance, reflectance, and refractive index of the films are inversely proportional to the percentage doping with cobalt while transmittance is directly proportional. As dilute magnetic semiconductor, AgCoO₂ finds good

application in Spintronics, hard disks, magnetic discs, micro drive. As wide bandgap semiconductor, it is applicable in light emitting diodes, sensors and can enable electronic equipment to operate at higher temperatures and voltage [16]. The XRD result shows that the film is rhombohedral in structure with mean crystallite size of 1.8418nm, dislocation density of 0.2948lines/nm² and microstrain 0.1882

6.0 CONCLUSIONS

Cobalt doped silver oxide nanofilm can be grown by chemical deposition method. The optical properties viz; absorbance, reflectance and refractive index, of the films are inversely proportional to the percentage doping with cobalt while transmittance is directly proportional. The film is a wide bandgap semiconductor.

7.0 REFERENCES

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