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Tuning of the physical properties by various transition metal doping in  $Co_3O_4$ : TM (TM= Ni, Mn, Cu) thin films: A comparative study

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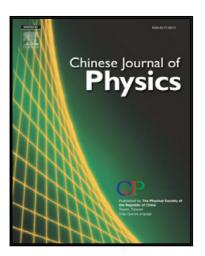
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### ACCEPTED MANUSCRIPT

## **Highlights:**

- Transition Metal (TM=Ni,Cu, Mn)-doped Co<sub>3</sub>O<sub>4</sub> thin films have been synthesized by sol gel dip-coating process.
- Optical properties of TM-doped Co<sub>3</sub>O<sub>4</sub> have been studied.
- Structural and vibrational properties of TM-doped Co<sub>3</sub>O<sub>4</sub> have been studies.



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