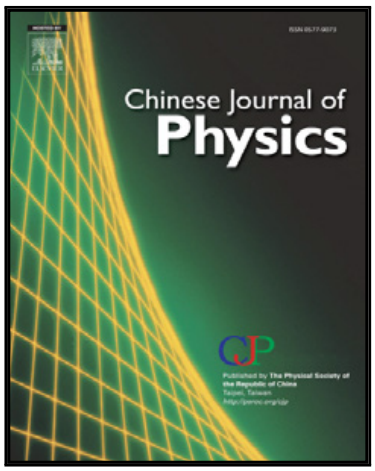

Synthesis and optical properties of $La_{1-X}Ce_XMnO_3$ studied by infrared reflectivity measurements

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Highlights

- Synthesis of $La_{1-x}Ce_xMnO_3$ by using Sol-gel method for first time.
- The substitution of Ce into $LaMno_3$ causes strong structural distortion.
- Optical conductivity has been calculated to identify the possible structural distortion induced by the doping of Ce.
- Splitting and softening of phonons was observed as Ce induced.
- Energy band gap found to decrease with the increase in X, reflecting the metal to insulator transition.