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## Effect of iron substitution by nickel on crystal structures, optical, and magnetic properties in double perovskite series $\text{Sr}_2\text{Fe}_{1-x}\text{Ni}_x\text{TeO}_6$ with $x = 0, 0.25, 0.50, 0.75,$ and $1$

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The double perovskite series with the formula  $\text{Sr}_2\text{Fe}_{1-x}\text{Ni}_x\text{TeO}_6$  ( $x = 0, 0.25, 0.50, 0.75,$  and  $1$ ) has been synthesized in polycrystalline form by a conventional solid-state reaction process by heating to 1300 K in air. Their crystal structures were probed by means of X-ray diffraction at room temperature. Rietveld analysis revealed that all the compositions crystallize in monoclinic space group  $I2/m$ .

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