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Highly sensitive $\text{Tm}^{3+}/\text{Yb}^{3+}$ codoped SrWO_4 for optical thermometry

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Highlights

- The material $\text{SrWO}_4:\text{Tm}^{3+}/\text{Yb}^{3+}$ was synthesized by the high temperature solid-state reaction method.
- $\text{Tm}^{3+}/\text{Yb}^{3+}$ codoped SrWO_4 for temperature sensing based on the FIR method was proposed and experimentally investigated, for the first time to the best of our knowledge.
- The thermal sensitivities of ${}^3\text{F}_2 \rightarrow {}^3\text{H}_6$ to ${}^3\text{H}_4 \rightarrow {}^3\text{H}_6$, and ${}^3\text{F}_3 \rightarrow {}^3\text{H}_6$ to ${}^3\text{H}_4 \rightarrow {}^3\text{H}_6$ of Tm^{3+} were investigated.

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