

第19回ナノテク交流シンポジウム 2024年3月5日 横浜市立大学 金沢八景キャンパス

**【P45】 遷移金属酸化物 $(\text{La}_{0.1}\text{Nd}_{0.9})_{1-x}(\text{Ca}_{0.6}\text{Sr}_{0.4})_x\text{FeO}_{3-\delta}$
($0.1 \leq x \leq 0.9$) の熱電特性**

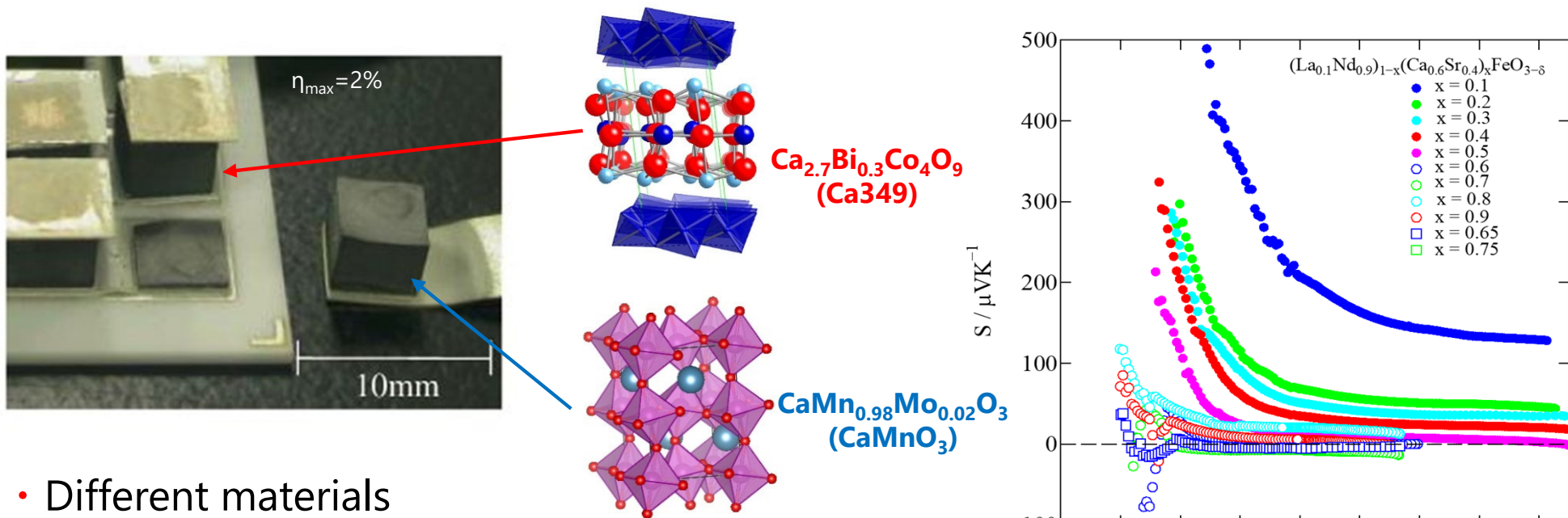
Thermoelectric properties of transition metal oxides $(\text{La}_{0.1}\text{Nd}_{0.9})_{1-x}(\text{Ca}_{0.6}\text{Sr}_{0.4})_x\text{FeO}_{3-\delta}$
($0.1 \leq x \leq 0.9$)

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P45 : Contents

➤ Developments of oxide thermoelectric conversion materials that exhibit p-type and n-type properties with the same composition



- Different materials

Difference in thermal expansion coefficient → Destruction



- Same composition materials

Same thermal expansion coefficient → Available for long time

Temperature dependence of Seebeck coefficient for $(\text{La}_{0.1}\text{Nd}_{0.9})_{1-x}(\text{Ca}_{0.6}\text{Sr}_{0.4})_x\text{FeO}_{3-\delta}$ ($0.1 \leq x \leq 0.9$)

- p-type at $0.1 \leq x \leq 0.4$
- Changed to n-type in the high temperature at $x \geq 0.5$
- **Changed to p-type again at $x \geq 0.8$**