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This document is the Supplemental Material

Citation:

WANG, Xinzhen, ZUBAIRI, Hareem, SJÖKVIST, Robin, WASIM, Muhammad, LIU, Xiaojiao, KLEPPE, Annette K, FETEIRA, Antonio, BEANLAND, Richard, WANG, Ge and REANEY, Ian M (2026). Giant electrostrain via field induced structural transformation in Sm doped BiFeO₃-PbTiO₃ ceramics revealed by in-situ synchronous X-ray diffraction. *Acta Materialia*, 316: 122480. [Article]

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Giant electrostrain via field induced structural transformation in Sm doped BiFeO₃-PbTiO₃ ceramics revealed by in-situ synchronous X-ray diffraction

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Figure S1. SEM images of (a) 17.5Sm, (b) 20Sm and (c) 22.5Sm ceramics

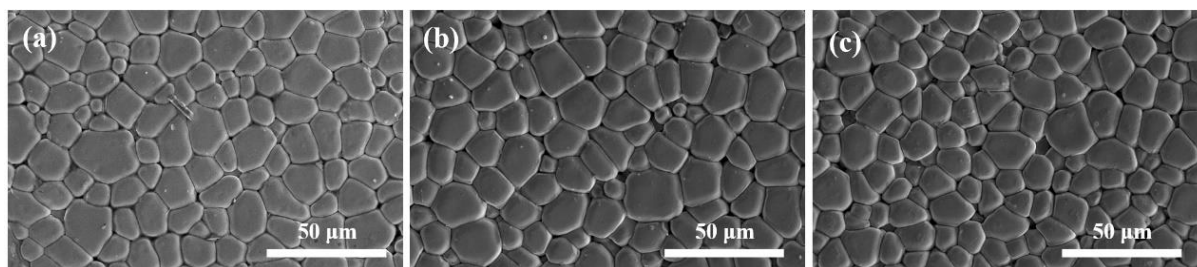


Figure S2. Full-pattern refinement of unpoled (a) 17.5Sm (b) 20Sm and (c) 22.5Sm ceramics. (d) temperature dependent dielectric properties of 20Sm.

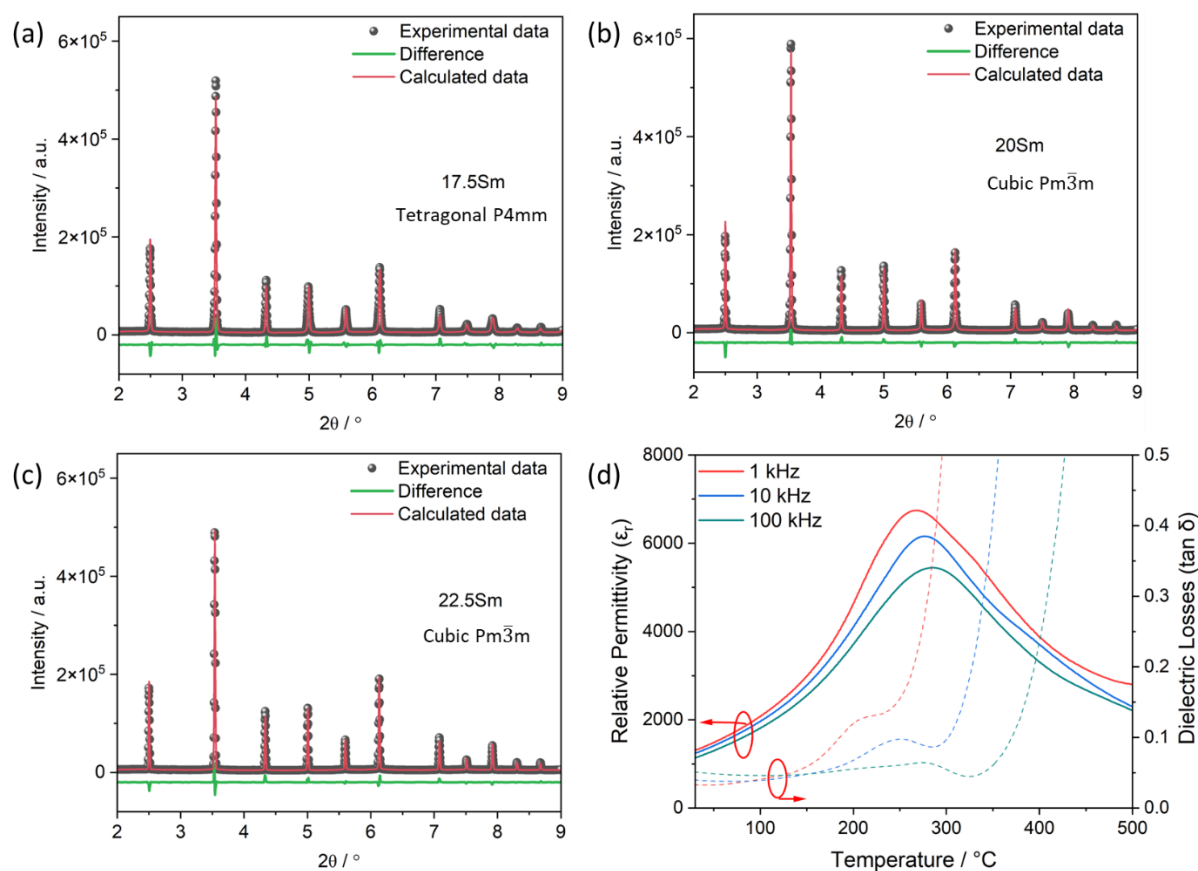


Table S1. Crystallographic information obtained from full-pattern refinement.

Composition	a / Å	c / Å	Structure	GOF
17.5Sm	3.9489593(8)	4.0298203(2)	Tetragonal	2.25
20Sm	3.9456890(11)	3.9456890(11)	Cubic	1.95
22.5Sm	3.9414667(5)	3.9414667(5)	Cubic	1.98

Figure S3. 3D SXR peak profile mapping and contour mapping of (a) $\{200\}_p$ at $\psi=0^\circ$ and (b) $\{220\}_p$ at $\psi=90^\circ$ during in-situ poling experiment.

