Takao Shimizu

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Permanent Researcher, National Institute for Materials Science (Jan. 2020 ~)

EDUCATION

- **Ph.D., Engineering, Tokyo Institute of Technology, 2013**
  Concentrations: Ferroelectric materials, Materials science
- **M.S. in Engineering, Tokyo Institute of Technology, 2009**
- **B.S. in Engineering, Tokyo Institute of Technology, 2007**

PROFESSIONAL EXPERIENCE:

- **Researcher, National Institute for Materials Science, 2020. 1~**
- **Assistant Professor, School of Materials and Chemical Technology, Tokyo Institute of Technology, 2017. 1- 2019. 12**
- **Specially Appointed Assistant Professor, Materials Research Center for Element Strategy, Tokyo Institute of Technology, 2013. 4- 2016. 12**

PUBLICATIONS: [As of December 2019: 74 total publications (74 Original papers, 7 Review articles, and 2 Book chapters), 696 citations, h-index = 14]

[Selected Publications]

(1) T. Mimura, **T. Shimizu***, and H. Funakubo, *Ferroelectricity in YO1.5-HfO2 films around 1 μm in thickness*, Appl. Phys. Lett., (2019).
(2) T. Mimura, **T. Shimizu**, T. Kiguchi, A. Akama, T.J. Konno, Y. Katsuya, O. Sakata, and H. Funakubo*, *Effects of heat treatment and in situ high-temperature X-ray diffraction study on the formation of ferroelectric epitaxial Y-doped HfO_2 film*, Jpn. J. Appl. Phys., **58** SBBB09 (2019).
(3) **T. Shimizu***, T. Mimura, T. Kiguchi, T. Shiraishi, T. Konno, Y. Katsuya, O. Sakata, and H. Funakubo, *Ferroelectricity mediated by ferroelastic domain switching in HfO_2 -based epitaxial thin films*, Appl. Phys. Lett., **113** 212901 (2018).
(4) **T. Shimizu**, *Ferroelectricity in HfO_2 and related ferroelectrics*, J. Ceram. Soc. Jpn. **126** 667 (2018).

(5) **T. Shimizu**, K. Katayama, T. Kiguchi, A. Akama, T.J. Konno, O. Sakata, and H. Funakubo*, *The demonstration of significant ferroelectricity in epitaxial Y-doped HfO_2 film*, Sci. Rep., **6** 32931 (2016).
(6) **T. Shimizu**, K. Katayama, T. Kiguchi, A. Akama, T.J. Konno, and H. Funakubo*, *Growth of epitaxial orthorhombic $YO_{1.5}$-substituted HfO_2 thin film*, Appl. Phys. Lett., **107** 32910 (2015).

INVITED PRESENTATIONS (Total 16 presentations)

[Selected Presentations]
(1) **T. Shimizu**, T. Mimura, and H. Funakubo, "Recent progress on ferroelectric HfO_2 epitaxial films", 19th US-Japan Seminar on Dielectric and Piezoelectric Ceramics, Nov. 3-6, 2019, AIST, Tsukuba, Japan
(2) **T. Shimizu**, T. Mimura, and H. Funakubo, "The phase stability and epitaxial growth of HfO2-based ferroelectric materials", The 13th Pacific Rim Conference of Ceramic Societies, Oct. 27-Nov. 1, 2019, Okinawa Convention Center, Ginowan, Japan.
(3) **T. Shimizu**, T. Mimura, and H. Funakubo, "Ferroelectricity in thick HfO2-based films, 7th International Symposium on Integrated Functionalities", Aug. 12-14, 2019, Univ. Coll. Dub. Dublin, Ireland.
(4) **T. Shimizu**, T. Mimura, and H. Funakubo, "Phase stability and Emergence of functionalities in HfO_2 thin films", Jan. 16-17, 2019, Sendai International Center, Sendai, Japan [in Japanese].
(5) **T. Shimizu**, K. Katayama, T. Mimura, T. Kiguchi, A. Akama, T. Konno, O. Sakata, and H. Funakubo, "Ferroelectricity in epitaxial and well-oriented textured Y-doped HfO2 films", The 11th Korea-Japan Conference on Ferroelectrics (KJC-FE11), 7-10 August, 2016, Sungkyunkwan University, Seoul, Korea.

AWARDS AND HONORS

- Encouragement Award, 37th Forum to Discuss on the Resent Advances in Electroceramics, 2017
- CerSJ Awards for advancements in ceramic science and technology, 2017.
- 37th JSAP Young Scientist Presentation Award, 2014.

PROFESSIONAL MEMBERSHIPS

- The Japan Society of Applied Physics
- The Ceramics Society of Japan
- The Physical Society of Japan