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## 原著論文 (6)

[6] **Yuzhang Wu**, Prashant R. Ghediya, Yuqiao Zhang, Yasutaka Matsuo, Hiromichi Ohta\*, and Yusaku Magari\*, "Thermopower Modulation Analyses of Effective Channel Thickness for Zn-incorporated In<sub>2</sub>O<sub>3</sub>-based Thin-Film Transistors", *Jpn. J. Appl. Phys.* 63, 126501 (2024). (DOI: [10.35848/1347-4065/ad971b](https://doi.org/10.35848/1347-4065/ad971b))

- [5] **Yuzhang Wu**, Yusaku Magari\*, Prashant Ghediya, Yuqiao Zhang, Yasutaka Matsuo, Hiromichi Ohta\*, “High-mobility and High-reliability Coexistence in Zn-incorporated Amorphous In<sub>2</sub>O<sub>3</sub>-based Thin-Film Transistors”, *Jpn. J. Appl. Phys.* 63, 076504 (2024). (July 25, 2024) (DOI: [10.35848/1347-4065/ad5ee6](https://doi.org/10.35848/1347-4065/ad5ee6))
- [4] Hai Jun Cho\*, **Yuzhang Wu**, Jiajun Qi, Yuna Kim, and Hiromichi Ohta, Osamu Matsuda\*, “Specular acoustic vibrational wave transmissions with the presence of phononic bandgaps”, *J. Phys. Soc. Japan* 91, 014601 (2022). (December 3, 2021) (DOI: [10.7566/JPSJ.91.014601](https://doi.org/10.7566/JPSJ.91.014601))
- [3] Jiajun Qi, **Yuzhang Wu**, Hai Jun Cho\*, Yuna Kim\*, Hiromichi Ohta, and Nobuyuki Tomaoki, “Pressure-tunable thermal conductivity observed from bisamide functionalized diacetylene crystals”, *J. Mater. Sci.* (2021). (June 22, 2021) (DOI: [10.1007/s10853-021-06192-7](https://doi.org/10.1007/s10853-021-06192-7))
- [2] Hai Jun Cho\*, **Yuzhang Wu**, Yuqiao Zhang, Bin Feng, Masashi Mikami, Woosuck Shin, Yuichi Ikuhara, Yu-Miin Sheu, Keiji Saito, and Hiromichi Ohta\*, “Anomalously Low Heat Conduction in Single-Crystal Superlattice Ceramics Lower than Randomly Oriented Polycrystals”, *Adv. Mater. Interfaces* 2001932 (2021). (February 15, 2021) (DOI: [10.1002/admi.202001932](https://doi.org/10.1002/admi.202001932))
- [1] Fabian Krahl, **Yuzhang Wu**, Hai Jun Cho\*, Maarit Karppinen, and Hiromichi Ohta\*, “Spontaneous generation of carrier electrons at the interface between polycrystalline ZnO and amorphous InGaZnO<sub>4</sub>”, *Adv. Electron. Mater.* 6, 2000404 (2020). (September 11, 2020) (DOI: [10.1002/aelm.202000404](https://doi.org/10.1002/aelm.202000404))

## 学会発表 (13)

- [13] **Yuzhang Wu**, Yusaku Magari, Prashant R. Ghediya, Yuqiao Zhang, Yasutaka Matsuo, Hiromichi Ohta, “Role of Zn Introduction in In<sub>2</sub>O<sub>3</sub> TFTs –Suppression of Grain Boundary Scattering –”, [2024年 第71回 応用物理学会春季学術講演会](#), 東京都市大学 世田谷キャンパス, 東京, 2024年3月22日-25日.
- [12] **Yuzhang Wu**, Yusaku Magari, Prashant Ghediya, and Hiromichi Ohta, “Modulation of Electron Transport Properties of Amorphous In–Zn–O Films with Varied Zn Concentrations”, [第59回 応用物理学会北海道支部 / 第20回 日本光学会北海道支部 合同学術講演会](#), 北海道大学, 札幌市, 2024.1.6 – 7.
- [11] **Yuzhang Wu**, Yusaku Magari, Prashant Ghediya, and Hiromichi Ohta, “Modulation of Electron Transport Properties of Amorphous In–Zn–O Films with Varied Zn Concentrations”, [The 24th RIES-HOKUDAI International Symposium 開](#) [\[kai\]](#), Hokkaido University, Sapporo, Japan, December 6-7, 2023.

- [10] **Yuzhang Wu**, Yusaku Magari, Prashant Ghediya, and Hiromichi Ohta, "Modulation of electron transport properties of amorphous In–Zn–O films with varied Zn concentrations", [The Mini-Workshop on Functional Materials Science \(Organizers' meeting\)](#), Sapporo, Japan, December 1-2, 2023. (Poster)
- [9] **Y. Wu**, H.J. Cho, Y. Zhang, B. Feng, M. Mikami, W. Shin, Y. Ikuhara, Y. Sheu, K. Saito, and H. Ohta, "Anomalously Low Heat Conduction in Single-Crystal Superlattice Ceramics Lower than Randomly Oriented Polycrystals", [2021年 第68回 応用物理学会春季学術講演会](#), online, 2021.3.16-19.
- [8] **Y. Wu**, H.J. Cho, B. Feng, M. Mikami, W. Shin, Y. Ikuhara, K. Saito, and H. Ohta, "Phonon propagation competition across natural superlattice  $\text{InGaO}_3(\text{ZnO})_m$ ", [The 3rd Workshop on Functional Materials Science](#), Sapporo, Japan, December 18th-20th, 2019. (Poster)
- [7] **Yuzhang Wu**, Hai Jun Cho, Bin Feng, Masashi Mikami, Woosuck Shin, Yuichi Ikuhara, Keiji Saito, and Hiromichi Ohta, "Thermal conductivity of  $\text{InGaO}_3(\text{ZnO})_m$  ( $m = \text{integer}$ ) natural superlattice", RIES-NCTU Workshop, Hokkaido University, Sapporo, Japan, December 3-4, 2019. (Poster)
- [6] **Yuzhang Wu**, Hai Jun Cho, Bin Feng, Masashi Mikami, Woosuck Shin, Yuichi Ikuhara, Keiji Saito, and Hiromichi Ohta, "Thermal conductivity of  $\text{InGaO}_3(\text{ZnO})_m$  ( $m = \text{integer}$ ) natural superlattice", [The 20th RIES-HOKUDAI International Symposium](#), Hokkaido University, Sapporo, Japan, December 2-3, 2019. (Poster)
- [5] **Y. Wu**, H.J. Cho, B. Feng, M. Mikami, W. Shin, Y. Ikuhara, K. Saito, and H. Ohta, "Anisotropic Heat Transport of Natural Superlattice Oxide,  $\text{InGaO}_3(\text{ZnO})_m$ ", [The 80th JSAP Autumn Meeting 2019](#), Sapporo, Japan, September 18-21, 2019.
- [4] **Y. Wu**, H. Cho, B. Feng, M. Mikami, W. Shin, Y. Ikuhara, and H. Ohta, "Natural superlattice structure based ultralow thermal conductivity in  $\text{InGaO}_3(\text{ZnO})_m$  single crystalline films", 第54回応用物理学会北海道支部/第15回日本光学会北海道支部合同学術講演会, サン・リフレ函館, 北海道函館市, 2019年1月5日-6日
- [3] **Y. Wu**, H.J. Cho, B. Feng, M. Mikami, W. Shin, Y. Ikuhara, K. Saito, H. Ohta, "Kapitza resistance based ultralow thermal conductivity of natural superlattice ceramic single crystalline films", [The 19th RIES-HOKUDAI International Symposium 組\[So\]](#), Jozankei View Hotel, Sapporo, December 11th-12th, 2018 (Poster)
- [2] **Y. Wu**, H. Cho, B. Feng, M. Mikami, W. Shin, Y. Ikuhara, and H. Ohta, "Heat transportation across parallel layers of natural superlattice  $\text{InGaO}_3(\text{ZnO})_m$  single crystalline films", [The 2nd Workshop on Functional Materials Science](#), Busan, South Korea, October 22-23, 2018

[1] **Y. Wu**, H. Cho, B. Feng, M. Mikami, W. Shin, Y. Ikuhara, and H. Ohta, "Cross-plane thermal conductivity of  $\text{InGaO}_3(\text{ZnO})_m$  ( $m=\text{integer}$ ) single crystalline thin films", 2018 年 第 79 回 応用物理学会秋季学術講演会, 名古屋国際会議場 (名古屋・愛知), 2018 年 9 月 18 日-21 日