Atsushi Tsukazaki : 塚﨑　敦

(Last update : 2014. Jan.)

Date of birth : July. 6. 1976
From：Himeji, Hyogo
Current affiliation：Institute for Materials Research, Tohoku University
Professor
東北大学　金属材料研究所
教授
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2012.10 ~ 科学技術振興機構　戦略的創造研究推進事業さきがけ「新物質科学と元素戦略」領域研究員（兼任）

Education：2005.3.25 Ph.D (Chemistry), Department of Chemistry, Tohoku University
東北大学大学院理学研究科化学専攻　博士課程修了 博士（理学）

2002.3.26 M. Sc. of Engineering, Department of Innovative and Engineering Materials, Tokyo Institute of Technology
東京工業大学大学院総合理工学研究科物質科学創造専攻　修士課程修了

2000.3 B. Sc. Department of Inorganic Materials, Tokyo Institute of Technology
東京工業大学工学部無機材料工学科修了

Research interests：

ZnO related materials, epitaxial thin film growth, molecular beam epitaxy, quantum transport, oxide electronics

Professional career：

2002.4～2005.3 日本学術振興会特別研究員（DC1）
2005.4～2006.3 東北大学金属材料研究所　超構造薄膜化学研究部門　博士研究員
2006.4～2007.3 日本学術振興会特別研究員（PD）勤務場所は同上
2007.4～2010.5 東北大学金属材料研究所　超構造薄膜化学研究部門　助教
2010.6～2012.8 東京大学大学院工学系研究科付属量子相エレクトロニクス研究センター　特任講師
2008.10～2012.3 科学技術振興事業団戦略的創造研究事業さきがけ　研究員兼任
2012.9～2013.3 東京大学大学院新領域創成科学研究科　物質系専攻　准教授
2012.10～　科学技術振興事業団戦略的創造研究事業さきがけ　研究員兼任
2013.4～　現職

Awards：

I, JSAP Young Scientist Award for the Presentation of an Excellent Paper (2001)
I, 19th Advanced Technology Award, Nippon broadcasting system, inc. prize (2005)
I, 22th Inoue Research Award for Young Scientists (2005)
I, 28th JSAP Award for the Most Promising Young Scientist (2006)
I, 48th Harada young Researcher Award (2008)
I, 7th Condensed-Matter Science Prize (2012)

Selected papers：

1, Observation of the fractional quantum Hall effect in an oxide.
Nature Materials **9**, 889 (2010).
2, Spin susceptibility and effective mass of two-dimensional electrons in $Mg_xZn_{1-x}O$/ZnO heterostructures
Phys. Rev. B **78**, 233308 (2008).
3, Quantum Hall-effect in polar oxide heterostructures.
Science **315**, 1388 (2007).
4, Blue light-emitting diode based on ZnO.
Japanese Journal of Applied Physics **44**, L643 (2005).

5, Repeated temperature modulation epitaxy for p-type doping and light-emitting diode based on ZnO.
Nature Materials **4**, 42 (2005).

6, Layer-by-layer growth of high-optical-quality ZnO film on atomically smooth and lattice relaxed ZnO buffer layer.
Applied Physics Letters **83**, 2784 (2003).

List of Publication：72 original papers

2013

1) Rashba Spin-orbit interaction in a $Mg_xZn_{1-x}O$/ZnO two-dimensional electron gas studied by electrically-detected electron spin resonance
Y. Kozuka, S. Teraoka, J. Falson, A. Oiwa, A. Tsukazaki, S. Tarucha, M. Kawasaki
Physical Review B **87**, 205411 (2013).

2) Systematic control of stree-induced anisotropy in pseudomorphic iron garnet thin films
M. Kubota, K. Shibuya, Y. Tokunaga, F. Kagawa, A. Tsukazaki, Y. Tokura, M. Kawasaki
Journal of Magnetism and Magnetic Materials **339**, 63 (2013).

3) Magneto-photoluminescence of charged excitons from $Mg_xZn_{1-x}O$/ZnO heterojunctions
T. Makino, Y. Segawa, A. Tsukazaki, R. Shen, S. Takeyama, H. Yuji, Y. Nishimoto, S. Akasaka, D. Takamizu, K. Nakahara, T. Tanabe, A. Kamisawa, M. Kawasaki
Physical Review B **87**, 085312 (2013).

4) Robust formation of skyrmions and topological Hall effect in epitaxial thin films of MnSi
Y. Li, N. Kanazawa, X. Z. Yu, A. Tsukazaki, M. Kawasaki, M. Ichikawa, X. F. Jin, F. Kagawa, Y. Tokura
Physical Review Letters **110**, 117202 (2013).

2012

5) Single-valley quantum Hall ferromagnet in a dilute $Mg_xZn_{1-x}O$ / ZnO strongly correlated two-dimensional electron system
Y. Kozuka, A. Tsukazaki, D. Maryenko, J. Falson, C. Bell, M. Kim, Y. Hikita, H. Y. Hwang, M. Kawasaki
Physical Review B **85**, 075302 (2012).

6) Temperature dependent magnetotransport experiments around $\nu = 1/2$ in ZnO heterostructures
D. Maryenko, J. Falson, Y. Kozuka, A. Tsukazaki, M. Onoda, H. Aoki, M. Kawasaki
Physical Review Letters **108**, 186803 (2012).

7) Ultrafast time-resolved Faraday rotation in EuO thin films
F. Liu, T. Makino, K. Ueno, A. Tsukazaki, T. Fukumura, Y. Kong, M. Kawasaki
Physical Review Letters **108**, 257401 (2012).

8) Precise calibration of Mg concentration in $Mg_xZn_{1-x}O$ thin films grown on ZnO substrates
Y. Kozuka, J. Falson, Y. Segawa, T. Makino, A. Tsukazaki, M. Kawasaki
Journal of Applied Physics **112**, 043515 (2012).

9) Gate control of surface transport in MBE-grown topological insulator $(Bi_{1-x}Sb_x)_2Te_3$ thin films
S. Simizu, R. Yoshimi, T. Hatano, K. S. Takahashi, A. Tsukazaki, M. Kawasaki, Y. Iwasa, Y. Tokura
Physical Review B **86**, 045319 (2012).

10) Ultrafast optical control of magnetization in EuO thin films
T. Makino, F. Liu, T. Yamasaki, Y. Kozuka, K. Ueno, A. Tsukazaki, T. Fukumura, Y. Kong, M. Kawasaki
Physical Review B **86**, 064403 (2012).

11) Stress-induced perpendicular magnetization in epitaxial Iron garnet thin films
M. Kubota, A. Tsukazaki, F. Kagawa, K. Shibuya, Y. Tokunaga, M. Kawasaki, Y. Tokura
Applied Physics Express **5**, 103002 (2012).

12) Correlation enhanced effective mass of two-dimensional electrons in MgxZn1-xO/ZnO heterostructures
Y. Kasahara, Y. Oshima, J. Falson, Y. Kozuka, A. Tsukazaki, M. Kawasaki, Y. Iwasa
Physical Review Letters **109**, 246401 (2012).

2011

13) Magnesium doping controlled density and mobility of two-dimensional electron gas in $Mg_xZn_{1-x}O$/ZnO heterostructures
J. Falson, D. Maryenko, Y. Kozuka, A. Tsukazaki, M. Kawasaki
Applied Physics Express **4**, 091101 (2011).

14) Improvement of electron mobility above 100,000 $cm^2 V^{-1}s^{-1}$ in $Mg_xZn_{1-x}O$ / ZnO heterostructures
S. Akasaka, A. Tsukazaki, K. Nakahara, A. Ohtomo, M. Kawasaki
Japanese Journal of Applied Physics Letters **50**, 080215 (2011).

15) Insulating phase of a two-dimensional electron gas in $Mg_xZn_{1-x}O$/ZnO heterostructures below $\nu = 1/3$
Y. Kozuka, A. Tsukazaki, D. Maryenko, J. Falson, S. Akasaka, K. Nakahara, S. Nakamura, S. Awaji, K. Ueno, M. Kawasaki
Physical Review B **84**, 033304 (2011).

16) Pulsed laser deposition and ionic liquid gate control of epitaxial Bi_2Se_3 thin films
Y. Onose, R. Yoshimi, A. Tsukazaki, H. Y. Yuan, T. Hidaka, Y. Iwasa, M. Kawasaki, Y. Tokura
Applied Physics Express **4**, 083001 (2011).

17) Analysis of the nonlinear optical parameter of ZnO channel waveguides
E. Y. M. Teraoka, T. Kita, D. H. Broaddus, A. Tsukazaki, M. Kawasaki, A. L. Gaeta, H. Yamada
Japanese Journal of Applied Physics Letters **50**, 04DG01 (2011).

18) Observation of anomalous Hall effect in EuO epitaxial thin films grown by a pulse laser deposition
T. Yamasaki, K. Ueno, A. Tsukazaki, T. Fukumura, M. Kawasaki
Applied Physics Letters **98**, 082116 (2011).

19) Preparation of epitaxy-ready surface of a ZnO (0001) substrate
S. Akasaka, K. Nakahara, H. Yuji, A. Tsukazaki, A. Ohtomo, M. Kawasaki
Applied Physics Express **4**, 035701 (2011).

2010

20) Observation of the fractional quantum Hall effect in an oxide
A. Tsukazaki, S. Akasaka, K. Nakahara, Y. Ohno, H. Ohno, D. Maryenko, A. Ohtomo, M. Kawasaki
Nature Materials **9**, 889 (2010).

21) Self-phase modulation at visible wavelengths in nonlinear ZnO channel waveguides
E. Y. M. Teraoka, D. H. Broaddus, T. Kita, A. Tsukazaki, M. Kawasaki, A. L. Gaeta, H. Yamada
Applied Physics Letters **97**, 071105 (2010).

22) $Mg_xZn_{1-x}O$ films with a low residual donor concentration ($< 10^{15}$ cm^{-3}) grown by molecular beam epitaxy
S. Akasaka, K. Nakahara, A. Tsukazaki, A. Ohtomo, M. Kawasaki
Applied Physics Express **3**, 071101 (2010).

23) Nitrogen doped $Mg_xZn_{1-x}O$/ZnO single heterostructure ultraviolet light-emitting diodes on ZnO substrate
K. Nakahara, S. Akasaka, H. Yuji, K. Tamura, T. Fujii, Y. Nishimoto, D. Takamizu, A. Sasaki, T. Tanabe, H. Takasu, H. Amaike, T. Onuma, S. F. Chichibu, A. Tsukazaki, A. Ohtomo, M. Kawsaki
Applied Physics Letters **97**, 013501 (2010).

24) Epitaxial growth of ZnO and $Mg_xZn_{1-x}O$ films on Zn-polar ZnO substrates by molecular beam epitaxy
H. Yuji, K. Nakahara, K. Tamura, S. Akasaka, Y. Nishimoto, D. Takamizu, A. Sasaki, T. Tanabe, H. Takasu, T. Onuma, S. F. Chichibu, A. Tsukazaki, A. Ohtomo, M. Kawasaki
Japanese Journal of Applied Physics **49**, 071104 (2010).

25) Hydrogenation-induced surface polarity recognition and proton memory behavior at protic-ionic-liquid/oxide electric-double-layer interface
H. Yuan, H. Shimotani, A. Tsukazaki, A. Ohtomo, M. Kawasaki, Y. Iwasa
Journal of the American Chemical Society **132**, 6672-6678 (2010).

26) ZnO channel waveguides for nonlinear optical applications
E. Y. M. Teraoka, T. Kita, A. Tsukazaki, M. Kawasaki, Y. Ohtera, H. Yamada

Japanese Journal of Applied Physics, **49**, 04DG15 (2010).

27) Electric-field control of two-dimensional electrons in polymer-gated oxide semiconductor heterostructures
M. Nakano, A. Tsukazaki, A. Ohtomo, K. Ueno, S. Akasaka, H. Yuji, K. Nakahara, T. Fukumura, M. Kawasaki
Advanced Materials **22**, 876 (2010).

28) Spatial distribution of two-dimensional electron gas in a ZnO/$Mg_{0.2}Zn_{0.8}O$ heterostructure probed by a conducting Schottky contact
M. Nakano, A. Tsukazaki, K. Ueno, R. Y. Gunji, A. Ohtomo, T. Fukumura, M. Kawasaki
Applied Physics Letters **96**, 052116 (2010).

2009

29) Magneto-optical study of *n*-type modulation-doped ZnO/$Mg_xZn_{1-x}O$ single quantum well structures
T. Makino, Y. Furuta, Y. Segawa, A. Tsukazaki, A. Ohtomo, Y. Hirayama, R. Shen, S. Takeyama, Y. Takagi, M. Kawasaki
Physical Review B **80**, 155333 (2009).

30) High-density carrier accumulation in ZnO field-effect transistors gated by electric double layers of ionic liquid
H. Yuan, H. Shimotani, A. Tsukazaki, A. Ohtomo, M. Kawasaki, Y. Iwasa
Advanced Functional Materials **19**, 1046-1053 (2009).

2008

31) Low temperature field-effect and magnetotransport properties in a ZnO based heterostructure with atomic-layer-deposited gate dielectric
A. Tsukazaki, A. Ohtomo, D. Chiba, Y. Ohno, H. Ohno, M. Kawasaki
Applied Physics Letters **93**, 241905 (2008).

32) Spin susceptibility and effective mass of two-dimensional electrons in $Mg_xZn_{1-x}O$/ZnO heterostructures
A. Tsukazaki, A. Ohtomo, M. Kawasaki, S. Akasaka, H. Yuji, K. Tamura, K. Nakahara, T. Tanabe, A. Kamisawa, T. Gokmen, J. Shavani, M. Shayegan
Physical Review B **78**, 233308 (2008).

33) $Mg_xZn_{1-x}O$-based Schottky Photodiode for highly color-selective ultraviolet light detection
M. Nakano, T. Makino, A. Tsukazaki, K. Ueno, A. Ohtomo, T. Fukumura, H. Yuji, Y. Nishimoto, S. Akasaka, D. Takamizu, K. Nakahara, T. Tanabe, A. Kamisawa, M. Kawasaki
Applied Physics Express **1**, 121201 (2008).

34) Transparent polymer Schottky contact for a high performance visible-blind ultraviolet photodiode based on ZnO
M. Nakano, T. Makino, A. Tsukazaki, K. Ueno, A. Ohtomo, T. Fukumura, H. Yuji, S. Akasaka, K. Tamura, K. Nakahara, T. Tanabe, A. Kamisawa, M. Kawasaki
Applied Physics Letters **93**, 123309 (2008).

35) Photoexcitation screening of the built-in electric field in ZnO single quantum wells
T. Makino, Y. Segawa, A. Tsukazaki, A. Ohtomo, M. Kawasaki
Applied Physics Letters **93**, 121907 (2008).

36) Plasma-assisted molecular beam epitaxy of high optical quality MgZnO films on Zn-polar ZnO substrates
Y. Nishimoto, K. Nakahara, D. Takamizu, A. Sasaki, K. Tamura, S. Akasaka, H. Yuji, T. Fujii, T. Tanabe, H. Takasu, A. Tsukazaki, A. Ohtomo, T. Onuma, S. F. Chichibu, M. Kawasaki
Applied Physics Express **1**, 091202 (2008).

37) Polymer Schottky contact on O-polar ZnO with silane coupling agent as surface protective layer
R. Y. Gunji, M. Nakano, A. Tsukazaki, A. Ohtomo, T. Fukumura, M. Kawasaki
Applied Physics Letters **93**, 012104 (2008).

38) High electron mobility exceeding 10^4 $cm^2V^{-1}s^{-1}$ in MgZnO/ZnO single heterostructures grown by molecular-beam epitaxy
A. Tsukazaki, H. Yuji, S. Akasaka, K. Tamura, K. Nakahara, T. Tanabe, H. Takasu, A. Ohtomo, M. Kawasaki
Applied Physics Express **1**, 055004 (2008).

39) Photoinduced insulator-to-metal transition in ZnO/$Mg_{0.15}Zn_{0.85}O$ heterostructures
A. Tsukazaki, A. Ohtomo, M. Nakano, M. Kawasaki
Applied Physics Letters **92**, 052105 (2008).

2007

40) Low temperature growth of highly crystalline superconducting ZrN thin film on c-GaN layer by pulsed laser deposition method
Y. Zhu, M. Ikeda, Y. Murakami, A. Tsukazaki, T. Fukumura, M. Kawasaki
Japanese Journal of Applied Physics **46**, L1000 (2007).

41) Schottky contact on a ZnO (0001) single crystal with conducting polymer
M. Nakano, A. Tsukazaki, R. Y. Gunji, K. Ueno, A. Ohtomo, T. Fukumura, M. Kawasaki
Applied Physics Letters **91**, 142113 (2007).

42) Insulator-to-Metal Transition in ZnO by Electric Double Layer Gating
H. Shimotani, H. Asanuma, A. Tsukazaki, A. Ohtomo, M. Kawasaki, Y. Iwasa
Applied Physics Letters **91**, 082106 (2007).

43) Recombination dynamics of excitons in $Mg_{0.11}Zn_{0.89}O$ alloy films grown using the high-temperature-annealed self-buffer layer by laser-assisted molecular-beam epitaxy
M. Kubota, T. Onuma, A. Tsukazaki, A. Ohtomo, M. Kawasaki, T. Sota, S. F. Chichibu
Applied Physics Letters **90**, 141903 (2007).

44) Quantum Hall-effect in polar oxide heterostructures
A. Tsukazaki, A. Ohtomo, T. Kita, Y. Ohno, H. Ohno, M. Kawasaki
Science **315**, 1388 (2007).

2006

45) Analysis of time-resolved donor-acceptor photoluminescence of N-doped ZnO
T. Makino, A. Tsukazaki, A. Ohtomo, M. Kawasaki, H. Koinuma
Japanese the Physical Society of Japan **75**, 095001 (2006).

46) Hole transport in p-type ZnO
T. Makino, A. Tsukazaki, A. Ohtomo, M. Kawasaki, H. Koinuma
Japanese Journal of Applied Physics **45**, 6346 (2006).

47) Shifting Donor-acceptor photoluminescence in N-doped ZnO
T. Makino, A. Tsukazaki, A. Ohtomo, M. Kawasaki, H. Koinuma
Journal of the Physical Society of Japan **75**, 073701 (2006).

48) Improvements in quantum efficiency of excitonic emissions in ZnO epilayers by the elimination of point defects
S. F. Chichibu, T. Onuma, M. Kubota, A. Uedono, T. Sota, A. Tsukazaki, A. Ohtomo, M. Kawasaki
Journal of Applied Physics **99**, 093505 (2006).

49) High-mobility electronic transport in ZnO thin films
A. Tsukazaki, A. Ohtomo, M. Kawasaki
Applied Physics Letters **88**, 152106 (2006).

2005

50) Free-carrier effects on zero- and one- phonon absorption onsets of n-type ZnO
T. Makino, Y. Segawa, S. Yoshida, A. Tsukazaki, A. Ohtomo, M. Kawasaki, H. Koinuma,
Japanese Journal of Applied Physics **44**, 7275 (2005).

51) Spectral shape analysis of ultraviolet luminescence in n-type ZnO:Ga
T. Makino, Y. Segawa, S. Yoshida, A. Tsukazaki, A. Ohtomo, M. Kawasaki, H. Koinuma,
Journal of Applied Physics **98**, 093520 (2005).

52) Electron transport in ZnO thin films
T. Makino, Y. Segawa, A. Tsukazaki, A. Ohtomo, M. Kawasaki
Applied Physics Letters **87**, 022101 (2005).

53) Blue light-emitting diode based on ZnO
A. Tsukazaki, M. Kubota, A. Ohtomo, T. Onuma, K. Ohtani, H. Ohno, S. F. Chichibu, M. Kawasaki
Japanese Journal of Applied Physics **44**, L643 (2005).

54) Exciton–polariton spectra and limiting factors for the room-temperature photoluminescence efficiency in ZnO
S. F. Chichibu, A. Uedono, A. Tsukazaki, T. Onuma, M. Zamfirescu, A. Ohtomo, A. Kavokin, G. Cantwell, C. W. Litton, T. Sota M. Kawasaki
Semiconductor Science and Technology **20**, S67 (2005).

55) Pulsed laser deposition of thin films and superlattices based on ZnO
A. Ohtomo, A. Tsukazaki
Semiconductor Science and Technology **20**, S1 (2005).

56) Repeated temperature modulation epitaxy for p-type doping and light-emitting diode based on ZnO
A. Tsukazaki, A. Ohtomo, T. Onuma, M. Ohtani, T. Makino, M. Sumiya, K. Ohtani, S. F. Chichibu, S. Fuke, Y. Segawa, H. Ohno, H. Koinuma, M. Kawasaki
Nature Materials **4**, 42 (2005).

2004

57) Hall and field-effect mobilities of electrons accumulated at a lattice-matched ZnO/ScAlMgO4 heterointerface
T. I. Suzuki, A. Ohtomo, A. Tsukazaki, F. Satoh, J. Nishii, H. Ohno, M. Kawasaki
Advanced materials **16**(21), 1887 (2004).

58) Direct comparison of photoluminescence lifetime and defect densities in ZnO epilayers studied by time-resolved photoluminescence and slow positron annihilation techniques
T. Koida, A. Uedono, A. Tsukazaki, T. Sota, M. Kawasaki, S. F. Chichibu
Physica Status Solidi a **201**, 2841-2845 (2004).

59) Gallium concentration dependence of room-temperature near-band-edge luminescence in n-type ZnO:Ga
T. Makino, Y. Segawa, S. Yoshida, A. Tsukazaki, A. Ohtomo, M. Kawasaki
Applied Physics Letters **85**, 759 (2004).

60) Emission from the higher-order excitons in ZnO films grown by laser molecular-beam epitaxy
A. Tsukazaki, A. Ohtomo, M. Kawasaki, T. Makino,C.H. Chia, Y. Segawa, H. Koinuma
Applied Physics Letters **84**, 3858 (2004).

61) Epitaxial growth and physical properties of a room temperature ferromagnetic semiconductor: Anatase phase $Ti_{1-x}Co_xO_2$
Y. Yamada, H. Toyosaki, A. Tsukazaki, T. Fukumura, K. Tamura, Y. Segawa, K. Nakajima, T. Aoyama, T. Chikyow, T. Hasegawa, H. Koinuma, M. Kawasaki
Journal of Applied Physics **96**, 5097 (2004)

62) Radiative and nonradiative excitonic transitions in nonpolar (11-20) and polar (000-1) and (0001) ZnO epilayers
T. Koida, S. F. Chichibu, A. Uedono, T. Sota, A. Tsukazaki, M. Kawasaki
Applied Physics Letters **84**, 1079 (2004).

63) SIMS analysis of ZnO films co-doped with N and Ga by temperature gradient pulsed laser deposition
M. Sumiya, A. Tsukazaki, S. Fuke, A. Ohtomo, H. Koinuma, M. Kawasaki
Applied Surface Science **223**, 206 (2004).

2003

64) Layer-by-layer growth of high-optical-quality ZnO film on atomically smooth and lattice relaxed ZnO buffer layer.
A. Tsukazaki, A. Ohtomo, S. Yoshida, M. Kawasaki, C.H. Chia, T. Makino, Y. Segawa, T. Koida, S. F. Chichibu, H. Koinuma
Applied Physics Letters **83**, 2784 (2003).

65) Donor-acceptor pair luminescence in nitrogen-doped ZnO films grown on lattice-matched $ScAlMgO_4$(0001) substrates.
K. Tamura, T. Makino, A. Tsukazaki, M. Sumiya, S. Fuke, T. Furumochi, M. Lippmaa, C. H. Chia, Y. Segawa, H. Koinuma, M. Kawasaki
Solid State Communications **127**, 265 (2003).

66) Defects in ZnO thin films grown on $ScAlMgO_4$ substrates probed by a monoenergetic positron beam
A. Uedono, T. Koida, A. Tsukazaki, M. Kawasaki, Z. Q. Chen, S. F. Chichibu, H. Koinuma
Journal of Applied Physics **93**, 2481 (2003).

67) Quantitative control and detection of heterovalent impurities in ZnO thin films grown by pulsed laser deposition.

M. Sumiya, S. Fuke, A. Tsukazaki, K. Tamura, A. Ohtomo, M. Kawasaki, H. Koinuma
Journal of Applied Physics **93**, 2562 (2003).

68) Magneto-optical spectroscopy of anatase TiO_2 doped with Co
T. Fukumura, Y. Yamada, K. Tamura, K. Nakajima, T. Aoyama, A. Tsukazaki, M. Sumiya, S. Fuke, Y. Segawa, T. Chikyow, T. Hasegawa, H. Koinuma, M. Kawasaki
Japanese Journal of Applied Physics **42**, L105 (2003).

69) Correlation between the photoluminescence lifetime and defect density in bulk and epitaxial ZnO
T. Koida, S. F. Chichibu, A. Uedono, A. Tsukazaki, M. Kawasaki, T. Sota, Y. Segawa, H. Koinuma
Applied Physics Letters **82**, 532 (2003).

2002

70) Systematic examination of carrier polarity in composition spread ZnO thin films codoped with Ga and N
A. Tsukazaki, H. Saito, K. Tamura, M. Ohtani, H. Koinuma, M. Sumiya, S. Fuke, T. Fukumura, M. Kawasaki
Applied Physics Letters **81**, 235 (2002).

71) Photoreflectance spectra of a ZnO heteroepitaxial film on the nearly lattice-matched $ScAlMgO_4$ (0001) substrate grown by laser molecular-beam epitaxy.
S. F. Chichibu, A. Tsukazaki, M. Kawasaki, K. Tamura, Y. Segawa, T. Sota, H. Koinuma
Applied Physics Letters **80**, 2860 (2002).

2000

72) Investigation of ZnO/sapphire interface and formation of ZnO nanocrystalline by Laser MBE.
I. Ohkubo, Y. Matsumoto, A. Ohtomo, T. Ohnishi, A. Tsukazaki, M. Lippmaa, H. Koinuma, M. Kawasaki
Applied Surface Science **159-160**, 514 (2000).

List of conference presentations: (only invited talks)

1) High mobility 2D transport in well-regulated ZnO based wurtzite heterostructures
A. Tsukazaki
MRS Fall meeting, Boston, USA, December 4, 2013.

2) Polar discontinuity effect in Wurtzite ZnO based heterostructures
A. Tsukazaki
JSAP-MRS symposia, Kyoto, September 19, 2013.

3) Interface engineering for high mobility 2DEG on polar-oxide semiconductos
A. Tsukazaki
The 40th international symposium on Compound Semiconductors, Kobe, May 23, 2013.

4) Quantum Hall effect in MgZnO/ZnO heterostructures
A. Tsukazaki
4th International Workshop on Emergent Phenomena in Quantum Hall Systems (EPQHS),
Beijing, China, June 23-26, 2011.

5) Fractional quantum Hall effect at the MgZnO/ZnO heterointerfaces
A. Tsukazaki
38th International symposium on Compound Semiconductors (ISCS), Berlin, Germany, May 22-26, 2011.

6) Emergence of fractional quantum Hall states in well-regulated MgZnO/ZnO heterostructures
A. Tsukazaki, Y. Kozuka, M. Kawasaki
MRS spring meeting, 2011 San Francisco, USA, April 27, 2011.

7) Fractional Quantum Hall effect in MgZnO/ZnO heterostructures
A. Tsukazaki, S. Akasaka, K. Nakahara, A. Kamisawa, Y. Ohno, H. Ohno, A. Ohtomo, M. Kawasaki
The 2010 WPI-AIMR Annual Workshop, Sendai, March 25-27, 2010.

8) Observation of fractional quantum Hall effect in MgZnO/ZnO based heterostructures

A. Tsukazaki
American Physical Society March meeting, Portland, USA, March 15-19, 2010.

9) 2D electron transport in $Mg_xZn_{1-x}O$ based heterostructures
A. Tsukazaki, A. Ohtomo, S. Akasaka, K. Nakahara, Y. Ohno, H. Ohno, M. Kawasaki,
JSPS Core program meeting, Korea, Oct. 24, 2009.

10) Quantum transport at MgZnO/ZnO interface
A. Tsukazaki
CNSI- RIEC Workshop on Nanoelectronics, Spintronics and Photonics, Santa Barbara, USA ,Oct. 9-10, 2008.

11) Quantum transport phenomena in $Mg_xZn_{1-x}O$/ZnO heterointerface
A. Tsukazaki
ATI international workshop, CREST international workshop, and Global COE international workshop on Spin currents, Japan, Feb. 19, 2008.

12) Atomically controlled heteroepitaxy of ZnO enabling UV emitting and quantum Hall devices
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