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## SENBA Shinya

Organization	Electrical Engineering
Position	Associate Professor
Academic Title	Doctor(Science)
Research Fields	Semiconductor Engineering, Electric Properties of Solids, Thin Film Material

### << Research Subjects >>

1. [Growth of Magnetic Semiconductor Films by Molecular Beam Epitaxy](#)
2. [Tunneling Magnetoresistance utilizing Ferromagnetic Semiconductor](#)
3. [Development of Magneto-Optical Kerr effect systems](#)

### << Academic Activities >>

#### Papers and Notes

1. S. Senba, N. Matsumoto, M. Jomura, H. Asada, Y. Fukuma, T. Koyanagi, K. Kishimoto: "Characterization of Epitaxial EuS(111) Thin Films on BaF<sub>2</sub>(111) and SrF<sub>2</sub>(111) Substrates Grown by Molecular Beam Epitaxy", [Journal of the Korean Physical Society, Vol.62, pp.2109-2112 \(2013\)](#).
2. N. Happo, Y. Takehara, M. Fujiwara, K. Tanaka, S. Senba, S. Hosokawa, K. Hayashi, W. Hu, M. Suzuki, H. Asada: "Local Structure around Ge Atoms in IV-VI Ferromagnetic Semiconductor Ge<sub>0.6</sub>Mn<sub>0.4</sub>Te Investigated by X-ray Fluorescence Holography", [e-Journal of Surface Science and Nanotechnology 9, pp.247-250 \(2011\)](#).
3. N. Happo, Y. Takehara, M. Fujiwara, K. Tanaka, S. Senba, S. Hosokawa, K. Hayashi, Wen Hu, M. Suzuki, H. Asada: "Local structure around Mn atoms in IV-VI ferromagnetic semiconductor Ge<sub>0.6</sub>Mn<sub>0.4</sub>Te by X-ray fluorescence holography", [Jpn. J. Appl. Phys. 50, 05FC11\(2011\)](#).
4. Y. Fukuma, K. Goto, S. Senba, S. Miyawaki, H. Asada, T. Koyanagi, H. Sato: "IV-VI diluted magnetic semiconductor Ge<sub>1-x</sub>MnxTe epilayer grown by molecular beam epitaxy", [J. Appl. Phys., Vol.103, pp.053904 1-4 \(2008\)](#)
5. Y. Fukuma, H. Asada, S. Miyawaki, T. Koyanagi, S. Senba, K. Goto, H. Sato: "Carrier-induced ferromagnetism in Ge<sub>0.92</sub>Mn<sub>0.08</sub>Te epilayers with a Curie temperature up to 190 K", [Appl. Phys. Lett., Vol.93, pp. 252502 1-3 \(2008\)](#)
6. Y. Fukuma, H. Sato, K. Fujimoto, K. Tsuji, A. Kimura, M. Taniguchi, S. Senba, A. Tanaka, H. Asada, T. Koyanagi: "Local environment of Mn atoms in IV-VI ferromagnetic semiconductor Ge<sub>1-x</sub>MnxTe", [J. Appl. Phys., Vol.99, pp.08D510 1-3 \(2006\)](#)
7. S. Senba, K. Fujimoto, H. Sato, Y. Fukuma, M. Nakatake, M. Arita, K. Tsuji, H. Asada, T. Koyanagi, H. Namatame, M. Taniguchi: "Mn 3p-3d resonant photoemission spectroscopy of ferromagnetic semiconductor Ge<sub>1-x</sub>MnxTe", [J. Elec. Spec. Relat. Phenom., Vol. 144-147, pp.629-632 \(2005\)](#)
8. H. Sato, K. Fujimoto, Y. Fukuma, K. Tsuji, A. Kimura, M. Taniguchi, S. Senba, A. Tanaka, H. Asada, T. Koyanagi: "Mn 3d states in ferromagnetic semiconductor Ge<sub>1-x</sub>MnxTe investigated by Mn 2p-3d soft x-ray magnetic circular dichroism spectroscopy", [J. Elec. Spec. Relat. Phenom., Vol. 144-147, pp.727-729 \(2005\)](#)

#### Presentations

1. Y. Ueda, T. Rakumatsu, N. Matsumoto, Y. Kawano, S. Senba, H. Asada, Y. Fukuma, K. Kishimoto, T. Koyanagi: "MBE growth of ferromagnetic EuS thin film on InP(100) substrate", [The 17th International Conference on Molecular Beam Epitaxy, MoP-53, pp.73, Nara\(Japan\), 11.24 \(2012\)](#).
2. N. Happo, Y. Takehara, M. Fujiwara, K. Tanaka, F. Matsui, H. Daimon, T. Matsushita, K. Okada, S. senba, S. Hosokawa, K. Hayashi, H. Asada: "Local atomic structure analysis of ferromagnetic semiconductor GeMnTe by atomic resolution holography", [The 19th International conference on magnetism, SK13, pp.352 Busan\(Korea\), 7.13\(2012\)](#)
3. S. Senba, N. Matsumoto, M. Jomura, H. Asada, Y. Fukuma, T. Koyanagi, K. Kishimoto: "Characterization of Epitaxial EuS(111) Thin Films on BaF<sub>2</sub>(111) and SrF<sub>2</sub>(111) Substrates Grown by Molecular Beam Epitaxy", [The 19th International conference on magnetism, QM10, pp.233, Busan\(Korea\), 7.10\(2012\)](#)

4. [N. Happo, S. Senba, S. Hosokawa, K. Hayashi, W. Hu, M. Fujiwara, K. Tanaka, H. Asada, M. Suzuki: "Local structure around Mn atoms in IV-VI ferromagnetic semiconductor Ge<sub>0.6</sub>Mn<sub>0.4</sub>Te by X-ray fluorescence holography", THE 17TH INTERNATIONAL CONFERENCE ON TERNARY AND MULTINARY COMPOUNDS, Baku\(Azerbaijan\), September 28-30\(2010\).](#)
5. [M. Johmura, Y. Watanabe, H. Asada, Y. Fukuma, S. Senba, T. Koyanagi:" \(Ge,Mn\)Te/EuS/GeTe Spin Filter Tunnel Junctions Grown by Molecular Beam Epitaxy, International Conference on Magnetism 2009, Karlsruhe\(Germany\), July 26-31\(2009\).](#)
6. [Y. Fukuma, K. Fujimoto, H. Sato, T. Tsuji, A. Kimura, M. Taniguchi, S. Senba, A. Tanaka, H. Asada, T. Koyanagi : "X-ray Magnetic circular dichroism of ferromagnetic semiconductor Ge<sub>1-x</sub>Mn<sub>x</sub>Te", Proceedings of the 27th international conference on the physics of semiconductors AIP conference proceedings, 772, 349-350\(2005\)](#)
7. [S. Senba, K. Fujimoto, H. Sato, Y. Fukuma, M. Nakatake, M. Arita, K. Tsuji, H. Asada, T. Koyanagi, H. Namatame, M. Taniguchi : "Mn 3p-3d resonant photoemission spectroscopy of ferromagnetic semiconductor Ge<sub>1-x</sub>Mn<sub>x</sub>Te", 14th International Conference on Vacuum Ultraviolet Radiation Physics, Cairns\(Australia\), July 19-23 \(2004\)](#)