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ユニットリーダー

EDUCATION

Ph.D. in Engineering, Chiba University	March 2012
M.S. in Engineering, Chiba University	March 2010
B.S. in Engineering, Chiba University	March 2008

PROFESSIONAL EXPERIENCE

Unit Leader, RIKEN, Yokohama, Japan	April 2016 to present
Senior Scientist, RIKEN, Yokohama, Japan	April 2016 to present
Research Associate, Chiba University, Chiba, Japan	April 2012 to present
Special Post Doctoral Researcher, RIKEN, Yokohama, Japan	April 2013 to March 2016
Research Fellow, JSPS, Tokyo, Japan	April 2010 to March 2013
Visiting Scientist, RIKEN, Yokohama, Japan	April 2012 to March 2013
Student Trainee, RIKEN, Yokohama, Japan	Nov. 2006 to March 2012

PEER REVIEW ORIGINAL PAPERS

*Corresponding author

- [1] S. Iguchi, R. Piao, M. Hamada, S. Matsumoto, H. Suematsu, T. Takao, A. T. Saito, J. Li, H. Nakagome, X. Jin, M. Takahashi, H. Maeda, and **Y. Yanagisawa***, Advanced field shimming technology to reduce the influence of a screening current in a REBCO coil for a high-resolution NMR magnet, *Superconductor Science and Technology*, **29**, 045013 (2016)
- [2] S. Iguchi, **Y. Yanagisawa***, M. Takahashi, T. Takao, K. Hashi, S. Ohki, G. Nishijima, S. Matsumoto, T. Noguchi, R. Tanaka, H. Suematsu, K. Saito, and T. Shimizu, Shimming for the 1020 MHz LTS/Bi-2223 NMR Magnet, *IEEE Transaction on Applied Superconductivity* in press.
- [3] G. Nishijima*, S. Matsumoto, K. Hashi, S. Ohki, A. Goto, T. Noguchi, S. Iguchi, **Y. Yanagisawa**, M. Takahashi, H. Maeda, T. Miki, K. Saito, R. Tanaka, and T. Shimizu, Successful Upgrading of 920 MHz NMR Superconducting Magnet to 1020 MHz Using Bi-2223 Innermost Coil, *IEEE Transaction on Applied Superconductivity* in press.
- [4] K. Kajita, S. Iguchi, Y. Xu, M. Nawa, M. Hamada, T. Takao, H. Nakagome, S. Matsumoto, G. Nishijima, H. Suematsu, M. Takahashi, and **Y. Yanagisawa***, Degradation of a REBCO Coil Due to Cleavage and Peeling Originating from an Electromagnetic Force, *IEEE Transaction on Applied Superconductivity* **26**, 4301106 (2016)
- [5] K. Yanagisawa, S. Iguchi, Y. Xu, J. Li, A. Saito, H. Nakagome, T. Takao, S. Matsumoto, M. Hamada, and **Y. Yanagisawa***, A Long Charging Delay for a No-Insulation REBCO Layer-Wound Coil and its Influence on Operation with Outer LTS coils, *IEEE Transaction on Applied Superconductivity* in press.
10.1109/TASC.2016.2515540
- [6] K. Hashi*, K. Deguchi, T. Yamazaki, S. Ohki, S. Matsumoto, G. Nishijima, A. Goto, K. Yamada, T. Noguchi, S. Sakai, M. Takahashi, **Y. Yanagisawa**, S. Iguchi, H. Maeda, R. Tanaka, T. Nemoto, H. Suematsu, J. To, J. Torres, K. Pervushin, and T. Shimizu, Efficiency of High Magnetic Fields in Solid-State NMR, *Chemistry Letters*, **45**, 209-210 (2016)
- [7] R. Piao, S. Iguchi, M. Hamada, S. Matsumoto, H. Suematsu, A. T. Saito, J. Li, H. Nakagome, T. Takao, M. Takahashi, H. Maeda, and **Y. Yanagisawa***, High resolution NMR measurements using a 400 MHz NMR with an (RE)Ba₂Cu₃O_{7-x} high-temperature superconducting inner coil: towards a compact super-high-field NMR, *Journal of Magnetic Resonance*, **263**, 164-171 (2016)
- [8] M. K. Pandey, R. Zhang, K. Hashi, S. Ohki, G. Nishijima, S. Matsumoto, T. Noguchi, K. Deguchi, A. Goto, T. Shimizu, H. Maeda, M. Takahashi, **Y. Yanagisawa**, T. Yamazaki, S. Iguchi, R. Tanaka, T. Nemoto, T. Miyamoto, H. Suematsu, K. Saito, T. Miki, A. Ramamoorthy, Y. Nishiyama*, 1020 MHz Single-Channel Proton Fast Magic Angle Spinning Solid-State NMR Spectroscopy, *Journal of Magnetic Resonance*, **261**, 1-5 (2015)
- [9] **Y. Yanagisawa***, Y. Xu, S. Iguchi, M. Hamada, S. Matsumoto, G. Nishijima, H. Nakagome, T. Takao, H. Suematsu, Y. Oshima, X. Jin, M. Takahashi, and H. Maeda, Combination of high hoop stress tolerance and a small screening current-induced field for an advanced Bi-2223 conductor

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- [11] K. Hashi*, S. Ohki, S. Matsumoto, G. Nishijima, A. Goto, K. Deguchi, K. Yamada, T. Noguchi, S. Sakai, M. Takahashi, **Y. Yanagisawa**, S. Iguchi, T. Yamazaki, H. Maeda, R. Tanaka, T. Nemoto, H. Suematsu, T. Miki, K. Saito, T. Shimizu, Achievement of 1020 MHz NMR, *Journal of Magnetic Resonance*, **256**, 30-33 (2015)
- [12] **Y. Yanagisawa***, Y. Xu, X. Jin, H. Nakagome, and H. Maeda, Reduction of Screening Current-Induced Magnetic Field of REBCO Coils by the Use of Multi-Filamentary Tapes, *IEEE Transaction on Applied Superconductivity*, **25**, 6603705 (2015)
- [13] **Y. Yanagisawa**, R. Piao, S. Iguchi, H. Nakagome, T. Takao, K. Kominato, M. Hamada, S. Matsumoto, H. Suematsu, X. Jin, M. Takahashi, T. Yamazaki, and H. Maeda*, Operation of a 400 MHz NMR magnet using a (RE:Rare Earth) $\text{Ba}_2\text{Cu}_3\text{O}_{7-x}$ high-temperature superconducting coil: Towards an ultra-compact super-high field NMR spectrometer operated beyond 1 GHz, *Journal of Magnetic Resonance*, **249**, 38-48 (2014)
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- [15] **Y. Yanagisawa**, K. Sato, K. Yanagisawa, H. Nakagome, X. Jin, M. Takahashi, and H. Maeda*, Basic mechanism of self-healing from thermal runaway for uninsulated REBCO pancake coils, *Physica C*, **499**, 40-44 (2014)
- [16] H. Ueda, M. Fukuda, K. Hatanaka, K. Michitsuji, H. Karino, T. Wang, X. Wang, A. Ishiyama, S. Noguchi, **Y. Yanagisawa**, and H. Maeda, Measurement and simulation of magnetic field generated by screening currents in HTS coil, *IEEE Transaction on Applied Superconductivity*, **24**, 4701505 (2014)
- [17] **Y. Yanagisawa***, A. Takizawa, M. Hamada, H. Nakagome, S. Matsumoto, T. Kiyoshi, H. Suematsu, X. Jin, M. Takahashi, and H. Maeda, Suppression of catastrophic thermal runaway for a REBCO innermost coil of an LTS/REBCO NMR magnet operated at 400-600 MHz (9.4-14.1 T), *IEEE Transaction on Applied Superconductivity* **24**, 4301005 (2014)
- [18] X. Jin*, T. Matsuda, **Y. Yanagisawa**, K. Sato, R. Piao, H. Nakagome, M. Takahashi, and H. Maeda, Study on the mechanism of preventing degradation in the performance of REBCO coils, *IEEE Transaction on Applied Superconductivity*, **24**, 4600104 (2014)
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- [22] **Y. Yanagisawa***, T. Fukuda, K. Sato, H. Nakagome, T. Takao, H. Kamibayashi, M. Takahashi, and H. Maeda, Use of a thermal grid method to increase thermal runaway current and suppress overheating for YBCO *pancake coils* operated at 77 K, *IEEE Transaction on Applied Superconductivity.* **23** 4603505 (2013)
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- [24] S. Matsumoto*, T. Kiyoshi, A. Miyazoe, A. Otsuka, M. Hamada, H. Maeda, **Y. Yanagisawa**, H. Nakagome, H. Suemetsu, Operation of wax-impregnated GdBCO layer-wound coil using cryocoolers, *IEEE Transaction on Applied Superconductivity.*, **23** 4602704 (2013)
- [25] M. Takahashi, Y. Ebisawa, K. Tenmei, **Y. Yanagisawa**, M. Hosono, K. Takasugi, T. Hase, T. Miyazaki, T. Fujito, H. Nakagome, T. Kiyoshi, T. Yamazaki and H. Maeda*, Towards a beyond 1 GHz solid-state nuclear magnetic resonance: External lock operation in an external current mode for a 500MHz nuclear magnetic resonance, *Review of Scientific Instruments*, **83** (2012) 105110 - 105110-6.
- [26] **Y. Yanagisawa**, E. Okuyama, H. Nakagome, T. Takematsu, T. Takao, M. Hamada, S. Matsumoto, T. Kiyoshi, A. Takizawa, M. Takahashi, and H. Maeda*, The mechanism of thermal runaway due to continuous local disturbances in the YBCO-coated conductor coil winding, *Superconductor Science and Technology.* **25** (2012) 075014 (10pp)
- [27] S. Matsumoto*, S. Choi, T. Kiyoshi, A. Otsuka, M. Hamada, H. Maeda, **Y. Yanagisawa**, H. Nakagome, and H. Suematsu, REBCO layer-wound coil tests under electromagnetic forces in an external magnetic field of up to 17.2 T, *IEEE Transaction on Applied Superconductivity*, **22**, 9501604 (2012)
- [28] **Y. Yanagisawa**, K. Sato, R. Piao, H. Nakagome, T. Takematsu, T. Takao, H. Kamibayashi, M. Takahashi, and H. Maeda*, Removal of degradation in the performance of epoxy impregnated YBCO-coated conductor double pancake, by using an YBCO-coated conductor insulated by polyimide electro-deposition, *Physica C* **476** 19–22 (2012)
- [29] S. Matsumoto*, T. Kiyoshi, A. Otsuka, M. Hamada, H. Maeda, **Y. Yanagisawa**, H. Nakagome and H. Suematsu, Generation of 24T at 4.2K using a layer-wound GdBCO insert coil with Nb₃Sn and Nb-Ti coils, *Superconductor Science and Technology*, **25**, 025017 (2012)
- [30] **Y. Yanagisawa**, Y. Kominato, H. Nakagome, T. Fukuda, T. Takematsu, T. Takao, M. Takahashi, and H. Maeda*, Effect of coil current sweep cycle and temperature change cycle on the screening current-induced magnetic field for YBCO-coated conductor coils, *Advances in*

Cryogenic Engineering, **57**, 1373-1380 (2012)

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- [33] **Y. Yanagisawa**, H. Nakagome, T. Takematsu, T. Takao, N. Sato, M. Takahashi, and H. Maeda*, Remarkable weakness against cleavage stress for YBCO-coated conductors and its effect on the YBCO coil performance, *Physica C*, **471**, 480-485 (2011)
- [34] **Y. Yanagisawa**, Y. Kominato, H. Nakagome, R. Hu, T. Takematsu, T. Takao, D. Uglietti, T. Kiyoshi, M. Takahashi, and H. Maeda, Magnitude of the screening field for YBCO coils, *IEEE Transaction on Applied Superconductivity*, **21**, 1640-1643 (2011)
- [35] A. Otsuka*, **Y. Yanagisawa**, T. Kiyoshi, H. Maeda, H. Nakagome, and M. Takeda, Evaluation of the Screening Current in a 1.3 GHz NMR Magnet Using ReBCO, *IEEE Transaction on Applied Superconductivity*, **21**, 2076 - 2079 (2011)
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- [37] T. Takematsu, R. Hu, T. Takao, **Y. Yanagisawa**, H. Nakagome, D. Uglietti, T. Kiyoshi, M. Takahashi, and H. Maeda*, Degradation of the performance of a YBCO-coated conductor double pancake coil due to epoxy impregnation, *Physica C*, **470**, 674-677 (2010)
- [38] **Y. Yanagisawa**, H. Nakagome, D. Uglietti, T. Kiyoshi, R. Hu, T. Takematsu, T. Takao, M. Takahashi, and H. Maeda*, Effect of YBCO-Coil Shape on the Screening Current-Induced Magnetic Field Intensity, *IEEE Transaction on Applied Superconductivity*, **20**, 744-747 (2010)
- [39] T. Kiyoshi*, S. Choi, S. Matsumoto, K. Zaitso, T. Hase, T. Miyazaki, M. Hamada, M. Hosono, **Y. Yanagisawa**, H. Nakagome, M. Takahashi, T. Yamazaki, and H. Maeda, HTS-NMR: Present Status and Future Plan, *IEEE Transaction on Applied Superconductivity*, **20**, 714-717 (2010)
- [40] **Y. Yanagisawa**, H. Nakagome, K. Tenmei, M. Hamada, M. Yoshikawa, A. Otsuka, M. Hosono, T. Kiyoshi, M. Takahashi, T. Yamazaki, and H. Maeda*, Operation of a 500 MHz high temperature superconducting NMR: Towards an NMR spectrometer operating beyond 1 GHz, *Journal of Magnetic Resonance*, **203**, 274-282 (2010)
- [41] **Y. Yanagisawa**, H. Nakagome, Y. Koyama, R. Hu, T. Takao, M. Hamada, T. Kiyoshi, M. Takahashi, and H. Maeda*, Effect of current sweep reversal on the magnetic field stability for a Bi-2223 superconducting solenoid, *Physica C*, **469**, 1996-1999 (2009)
- [42] Y. Koyama, T. Takao, **Y. Yanagisawa**, H. Nakagome, M. Hamada, T. Kiyoshi, M. Takahashi, and H. Maeda*, Towards beyond 1GHz NMR: mechanism of the long-term drift of screening current-induced magnetic field in a Bi-2223 coil, *Physica C*, **469**, 694-701 (2009)
- [43] **Y. Yanagisawa**, H. Nakagome, M. Hosono, M. Hamada, T. Kiyoshi, F. Hobo, M. Takahashi, T. Yamazaki, and H. Maeda*, Towards beyond-1 GHz NMR: Field stabilization and NMR

Measurement in the external current mode, *Proceedings of ICEC 22-ICMC 2008* (The Korea Institute of Applied Superconductivity and Cryogenics), 853-858 (2009)

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REVIEW PAPERS

*Corresponding author

- [1] H. Maeda*, T. Yamazaki, Y. Nishiyama, M. Hamada, K. Hashi, T. Shimizu, H. Suematsu, **Y. Yanagisawa**, Development of super-high field NMR operated beyond 1 GHz using high-temperature superconducting coils, *eMagRes* accepted for publication
- [2] H. Maeda* and **Y. Yanagisawa**, Recent developments in high-temperature superconducting magnet technology (Review), *IEEE Transaction on Applied Superconductivity*, **24**, 4602412, (2014)
- [3] **Y. Yanagisawa** and H. Maeda, Degradation in the REBCO coil performance for mechanical reasons, *J. Cryo. Super. Soc. Jpn.*, Vol. **48**, No.4 (2013), pp. 151-156 (Written in Japanese)
- [4] **Y. Yanagisawa** and H. Maeda, Basic mechanism of thermal runaway for REBCO coils, *J. Cryo. Super. Soc. Jpn.*, Vol. **48**, No.4 (2013), pp. 157-164 (Written in Japanese)
- [5] **Y. Yanagisawa** and H. Maeda, Mechanism and suppressive methods for screening-current-induced magnetic field of REBCO coils, *J. Cryo. Super. Soc. Jpn.*, Vol. **48**, No.4 (2013), pp. 165-171 (Written in Japanese)

BOOKS

- [1] **柳澤 吉紀 (Yoshinori Yanagisawa)**, 「高温超電導を用いた超高磁場 NMR の開発」、工業材料 (ENGINEERING MATERIALS) 【特集】 超電導は 21 世紀のキーテクノロジー - 最新の応用展開をさぐる、平成 27 年 12 月 15 日、第 64 巻、第 1 号、通巻第 806 号、ISSN 0452-2834. pp.48-52、日刊工業新聞 (Written in Japanese)
- [2] **柳澤 吉紀 (Yoshinori Yanagisawa)**, 「絶縁部分の厚さが従来の 1/10 の高温超伝導線材-超伝導機器の小型化へ-」、工業材料 (ENGINEERING MATERIALS) 【特集】 次代を拓く—工業材料キーワード 3 2、平成 26 年 1 月 1 日、第 62 巻、第 1 号、通巻第 782 号、ISSN 0452-2834. pp.22-23、日刊工業新聞 (Written in Japanese)

PRESENTATIONS

Invited talks

- [1] **Y. Yanagisawa**, R. Piao, S. Iguchi, K. Kajita, Y. Xu, K. Yanagisawa, M. Nawa, Y. Suetomi, T. Takao, H. Nakagome, M. Hamada, S. Matsumoto, G. Nishijima, H. Suematsu, X. Jin, M. Takahashi, and H. Maeda, Technical Challenges for a Compact Super-High Field LTS/HTS

NMR Magnet, 28th International Symposium on Superconductivity (ISS) 2015, November 16-18, 2015, Tokyo, Japan

- [2] **Y. Yanagisawa** and H. Maeda, The actual quenches of HTS coils, 3rd Workshop on Accelerator Magnets in HTS (WAMHTS-3), Sep. 10-11, 2015, Lyon, France
- [3] **Y. Yanagisawa**, R. Piao, H. Nakagome, K. Kominato, M. Hamada, S. Matsumoto, T. Kiyoshi, H. Suematsu, X. Jin, M. Takahashi, and H. Maeda, Towards next-generation compact high field NMR; The world's first LTS/REBCO NMR magnet operated at 400 MHz (9.4 T), 26th International Symposium on Superconductivity (ISS) 2013, November, 2013, Tokyo, Japan

Contributed talks

52 talks for international conferences and 97 talks for domestic conferences.

OTHERS

Awards

- [1] President Award, Chiba University, March 2012
- [2] Excellent Presentation Award, IEEJ, Sep. 2011
- [3] Excellent Presentation Award, Cryo. Super. Soc. Jpn., May 2011
- [4] Superconductivity Science and Technology Award, The Society of Non-Traditional Technology, "Development of technology for improving NMR sensitivity NMR", April 2010
- [5] Young researcher poster award, 48th Annual Meeting of the Nuclear Magnetic Resonance Society of Japan, Nov. 2009
- [6] Student travel stipend, The 49th Experimental Nuclear Magnetic Resonance Conference, March 2008