

非平衡磁性材料の研究開発プロジェクト

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研究論文

- 1) Structural and magnetic properties on the Fe-B-P-Cu-W nano-crystalline alloy system. [AIP Advances, **8** (4), (2018), 047703]
Yan Zhang, Yaocen Wang, Akihiro Makino
- 2) Static and dynamic behavior of domain walls in high B-S soft magnetic ribbons tuned by the annealing temperature. [JOURNAL OF PHYSICS D-APPLIED PHYSICS, **51** (6), (2018), 065007]
Mallick, S; Sharma, P; Takenaka, K; Makino, A; Bedanta, S
- 3) Effect of Cr Element on Glass Forming Ability and Corrosion Resistance of Fe-based Bulk Amorphous Alloys. [RARE METAL MATERIALS AND ENGINEERING, **47** (2), (2018), 701-704]
Xiong, B; Li, X; Zheng, JB; Li, XN; Lu, GH; Wang, ZM; Ju, DY; Akihiro, M
- 4) First principle study on the Si effect in the Fe-based soft magnetic nano-crystalline alloys. [JOURNAL OF ALLOYS AND COMPOUNDS, **730**, (2018), 196-200]
Wang, YC; Zhang, Y; Makino, A; Kawazoe, Y
- 5) Annealing effect of amorphous Fe-Si-B-P-Cu precursors on microstructural evolution and redox behavior of nanoporous counterparts. [JOURNAL OF ALLOYS AND COMPOUNDS, **726**, (2017), 810-819]
Fu, CQ; Xu, LJ; Dan, ZH; Qin, FX; Makino, A; Chang, H; Hara, N
- 6) Magnetic Properties of L1(0) FeNi Phase Developed Through Annealing of an Amorphous Alloy. [IEEE TRANSACTIONS ON MAGNETICS, **53** (11), (2017), 2100910]
Sharma, P; Zhang, Y; Makino, A
- 7) Effects of minor precipitation of large size crystals on magnetic properties of Fe-Co-Si-B-P-Cu alloy. [JOURNAL OF ALLOYS AND COMPOUNDS, **709**, (2017), 663-667]
Zhang, Yan; Sharma, Parmanand; Makino, Akihiro
- 8) Structural Inheritance and Redox Performance of Nanoporous Electrodes from Nanocrystalline Fe_{85.2}B₁₀₋₁₄P₀₋₄Cu_{0.8} Alloys. [NANOMATERIALS, **7** (6), (2017), 141]
Fu, CQ; Xu, LJ; Dan, ZH; Makino, A; Hara, N; Qin, FX; Chang, H
- 9) Fe-Si-B-P-C-Cu nanocrystalline soft magnetic powders with high B-s and low core loss. [AIP ADVANCES, **7** (5), (2017), 056111]
Takahashi, T., Yoshida, K., Shimizu, Y., Setyawan, AD., Bitto, M., Abe, M., Makino, A
- 10) Stress-Enhanced Transformations from Hypothetical B2 to Stable L1₀ and Amorphous to fcc Phases in Fe₅₀Ni₅₀ Binary Alloy by Molecular Dynamic Simulations. [Materials Transactions, **58** (4), (2017), 646-654]
Takeuchi A., Takenaka K., Zhang Y., Wang Y.C., Makino A.
- 11) Mechanism of active dissolution of nanocrystalline Fe-Si-B-P-Cu soft magnetic alloys. [MATERIALS CHARACTERIZATION, **121**, (2016), 9-16]
Dan, ZH; Qin, FX; Zhang, Y; Makino, A; Chang, H; Hara, N;
- 12) Effect of Substitution of Cu by Au and Ag on Nanocrystallization Behavior of Fe_{83.3}Si₄B₈P₄Cu_{0.7} Soft Magnetic Alloy. [Journal of Alloys and Compounds, **683**, (2016), 263-270]
Dan Z., Zhang Y., Takeuchi A., Hara N., Qin F.X., Makino A., Chang H.

- 13) Temperature Dependency of Viscosity of Fe₇₆Si₉B₁₀P₅ Supercooled Liquid and Hetero-Amorphous Structure. [Journal of Alloys and Compounds, **679**, (2016), 164-168]
Yodoshi N., Ookawa S., Yamada R., Kawasaki A., Makino A.
- 14) Structural, mechanical and optical properties of thin films deposited from a graphitic carbon nitride target. [Diamond and Related Materials, **66**, (2016), 149-156]
Kaushik N., Sharma P., Nishijima M., Makino A., Esashi M., Tanaka S.
- 15) Mechanically strong nanocrystalline Fe-Si-B-P-Cu soft magnetic powder cores utilizing magnetic metallic glass as a binder. [AIP Advances, **6** (5), (2016), 055934-1-055934-7]
Luan J., Sharma P., Yodoshi N., Zhang Y., Makino A.
- 16) Outstanding efficiency in energy conversion for electric motors constructed by nanocrystalline soft magnetic alloy "NANOMET[®]" cores. [AIP Advances, **6** (5), (2016), 055925-1-055925-5]
Nishiyama N., Tanimoto T., Makino A.
- 17) Crystallization induced ordering of hard magnetic L1₀ phase in melt-spun FeNi-based ribbons. [AIP Advances, **6** (5), (2016), 055218-1-055218-9]
Sato K., Sharma P., Zhang Y., Takenaka K., Makino A.
- 18) Unusual high B_s for Fe-based amorphous powders produced by a gas-atomization technique. [AIP Advances, **6** (5), (2016), 055933-1-055933-7]
Yoshida K., Bito M., Kageyama J., Shimizu Y., Abe M., Makino A.
- 19) Industrialization of nanocrystalline Fe-Si-B-P-Cu alloys for high magnetic flux density cores. [Journal of Magnetism and Magnetic Materials, **401**, (2016), 479-483]
Takenaka K., Setyawan A.D., Sharma P., Nishiyama N., Makino A.
- 20) Structure analyses of Cu nanoclusters in the soft magnetic Fe_{85.2}Si₁B₉P₄Cu_{0.8} alloy by XAFS and fcc cluster model. [Journal of Physics Conference Series, **712**, (2016), 012106]
Matsuura, M., Nishijima, M., Konno, K., Ofuchi, H., Takenaka, K., Makino, A
- 21) An Artificially Produced Rare-Earth Free Cosmic Magnet. [Scientific Reports, **5**, (2015), 16627-1-16627-7]
Makino A., Sharma P., Sato K., Takeuchi A., Zhang Y., Takenaka K.
- 22) Magnetic Influence of Alloying Elements in Fe-Rich Amorphous Alloys Studied by Ab Initio Molecular Dynamics Simulations. [IEEE Transactions on Magnetics, **51** (11), (2015), 2006504-1-2006504-4]
Wang Y.C., Zhan Y., Takeuchi A., Makino A., Liang Y.Y., Kawazoe Y.
- 23) Bulk amorphous powder cores with low core loss by spark-plasma sintering Fe₇₆Si_{9.6}B_{8.4}P₆ amorphous powder with small amounts of SiO₂. [Journal of Alloys and Compounds, **647**, (2015), 917-920]
Li X., Lu G.H., Zhang Z.Q., Ju D.Y. Makino A.
- 24) Evaluation of critical cooling rate of Fe₇₆Si₉B₁₀P₅ metallic glass by containerless solidification process. [Journal of Alloys and Compounds, **643**, (2015), S2-S7]
Yodoshi N., Yamada R., Kawasaki A., Makino A.
- 25) Nucleation control for fine nano crystallization of Fe-based amorphous alloy by high-magnetic-field annealing. [Journal of Alloys and Compounds, **637**, (2015), 213-218]
Onodera R., Kimura S., Watanabe K., Yokoyama Y., Makino A., Koyama K.
- 26) Direct imaging of structural heterogeneity of the melt-spun Fe_{85.2}Si₂B₈P₄Cu_{0.8} alloy. [AIP Advances, **5** (6), (2015), 067166-1-067166-5]
Sato K., Takenaka K., Makino A., Hirotsu Y.
- 27) Production of a magnetic material with the ability to change from very soft to semi-hard magnetic. [Journal of Applied Physics, **117** (17), (2015), 17E507-1-17E507-4]
Zhang Y., Sharma P., Yodoshi N., Makino A.

- 28) Atomic packing and diffusion in $\text{Fe}_{85}\text{Si}_2\text{B}_9\text{P}_4$ amorphous alloy analyzed by ab initio molecular dynamics simulation. [Journal of Applied Physics, **117** (17), (2015), 17B705-1-17B705-4]
Wang Y.C., Takeuchi A., Makino A., Liang Y.Y., Kawazoe Y.
- 29) Thermodynamic analysis of binary $\text{Fe}_{85}\text{B}_{15}$ to quinary $\text{Fe}_{85}\text{Si}_2\text{B}_8\text{P}_4\text{Cu}_1$ alloys for primary crystallizations of alpha-Fe in nanocrystalline soft magnetic alloys. [Journal of Applied Physics, **117** (17), (2015), 17B737-1-17B737-4]
Takeuchi A., Zhang Y., Takenaka K., Makino A.
- 30) Performance of a prototype power transformer constructed by nanocrystalline Fe-Co-Si-B-P-Cu soft magnetic alloys. [Journal of Applied Physics, **117** (17), (2015), 17D519-1-17D519-4]
Takenaka K., Nishiyama N., Setyawan A.D., Sharma P., Makino A.
- 31) Magnetic properties of 120-mm wide ribbons of high B_s and low core-loss NANOMET^R alloy. [Journal of Applied Physics, **117** (17), (2015), 17B715-1-17B715-4]
Setyawan A.D., Takenaka K., Sharma P., Nishijima M., Nishiyama N., Makino A.
- 32) Evolution of fcc Cu clusters and their structure changes in the soft magnetic $\text{Fe}_{85.2}\text{Si}_1\text{B}_9\text{P}_4\text{Cu}_{0.8}$ (NANOMET) and FINEMET alloys observed by X-ray absorption fine structure. [Journal of Applied Physics, **117** (17), (2015), 17A324-1-17A324-4]
Matsuura M., Nishijima M., Takenaka K., Takeuchi A., Ofuchi H., Makino A.
- 33) Observation of Cu nanometre scale clusters formed in $\text{Fe}_{85}\text{Si}_2\text{B}_8\text{P}_4\text{Cu}_1$ nanocrystalline soft magnetic alloy by a spherical aberration-corrected TEM/STEM. [Philosophical Magazine Letters, **95** (5), (2015), 277-284]
Nishijima M., Matsuura M., Zhang Y., Makino A.
- 34) Production of Nanocrystalline (Fe, Co)-Si-B-P-Cu Alloy with Excellent Soft Magnetic Properties for Commercial Applications. [Materials Transactions, **56** (3), (2015), 372-376]
Takenaka K., Setyawan A.D., Zhang Y., Sharma P., Nishiyama N., Makino A.
- 35) In-situ Lorentz microscopy of $\text{Fe}_{85}\text{Si}_2\text{B}_8\text{P}_4\text{Cu}_1$ nanocrystalline soft magnetic alloys. [Journal of Magnetism and Magnetic Materials, **375**, (2015), 10-14]
Akase Z., Aizawa S., Shindo D., Sharma P., Makino A.
- 36) Preferentially Oriented Growth of L_{10} Fe Pt on Si Substrate. [Acta Physica Polonica A, **127** (2), (2015), 611-613]
Kaushik N., Sharma P., Tanaka S., Makino A., Esashi M.
- 37) Competition driven nanocrystallization in high B_s and low coreloss Fe-Si-B-P-Cu soft magnetic alloys. [Scripta Materialia, **95**, (2015), 3-6]
Sharma P., Zhang X., Zhang Y., Makino A.
- 38) Production and Properties of Soft Magnetic Cores Made From Fe-Rich FeSiBPCu Powders. [IEEE Transactions on Magnetics, **51** (1), (2015), 2800104-1-2800104-4]
Zhang Y., Sharma P., Makino A.
- 39) First-principle simulation on the crystallization tendency and enhanced magnetization of $\text{Fe}_{76}\text{B}_{19}\text{P}_5$ amorphous alloy. [Materials Research Express, **2** (1), (2015), 016506-1-016506-10]
Wang Y.C., Zhang Y., Takeuchi A., Makino A., Liang Y.Y., Kawazoe Y.
- 40) Structural heterogeneity of the melt-spun (Fe, Co)-Si-B-P-Cu alloy with excellent soft magnetic properties. [Physics Procedia, **75**, (2015), 1376-1380]
Sato, Kazuhisa; Takenaka, Kana; Makino, Akihiro; Hirotsu, Yoshihiko
- 41) Mechanical properties and corrosion resistance of a new $\text{Zr}_{56}\text{Ni}_{20}\text{Al}_{15}\text{Nb}_4\text{Cu}_5$ bulk metallic glass with a diameter up to 25 mm. [Journal of Alloys and Compounds, **615**, (2014), S71-S74]
Li Y.H., Zhang W., Qin F.X., Makino A.

- 42) Thermodynamic Assessment of Fe-B-P-Cu Nanocrystalline Soft Magnetic Alloys for Their Crystallizations from Amorphous Phase. [Materials Transactions, **55** (12), (2014), 1852-1858]
Takeuchi A., Makino A.
- 43) Stress relaxation behavior of Fe-Co-Si-B-Nb metallic glassy alloys in their supercooled-liquid state. [Journal of Alloys and Compounds, **612**, (2014), 243-251]
Yodoshi N., Yamada R., Kawasaki A., Makino A.
- 44) Fe-Rich Fe-Si-B-P-Cu Powder Cores for High-Frequency Power Electronic Applications. [IEEE Transactions on Magnetics, **50** (11), (2014), 2006804-1-2006804-4]
Zhang Y., Sharma P., Makino A.
- 45) Effect of Si Addition on the Corrosion Properties of Amorphous Fe-Based Soft Magnetic Alloys. [Journal of Non-Crystalline Alloys, **402**, (2014), 36-43]
Dan Z., Takenaka K., Zhang Y., Unami S., Takeuchi A., Hara N., Makino A.
- 46) The Effects of Fe₂P and Fe₃P Intermediate Equilibrium Phases on Glass-Forming Ability of Fe₇₆Si₉B₁₀P₅ Bulk Metallic Glass. [Materials Transactions, **55** (10), (2014), 1575-1581]
Takeuchi A., Makino A.
- 47) MeV 電子照射による FeSiBPCu 合金のナノ結晶化過程の動的観察. [日本金属学会誌, **54** (9), (2014), 364-368]
Shimizu K., Nishijima M., Takeuchi A., Nagase T., Yasuda H., Makino A.
- 48) Crystallization kinetics of high iron concentration amorphous alloys under high magnetic fields. [Journal of Alloys and Compounds, **604** (8), (2014), 8-11]
Onodera R., Kimura S., Watanabe K., Yokoyama Y., Makino A., Koyama K.
- 49) Enhancement of glass-forming ability and plasticity of Cu-rich Cu-Zr-Al bulk metallic glasses by minor addition of Dy. [Journal of Materials Research, **29** (12), (2014), 1362-1368]
B.W. Zhou, L. Deng, X.G. Zhang, W. Zhang, H.M. Kimura, A. Makino
- 50) Metallic glass thin films for potential biomedical applications. [Journal of Biomedical Materials Research Part B: Applied Biomaterials, **102** (7), (2014), 1544-1552]
Kaushik N., Sharma P., Ahadian S., Khademhosseini A., Takahashi M., Makino A., Tanaka S., Esashi M.
- 51) Influence of Microstructure on Soft Magnetic Properties of Low Coreloss and High B_s Fe₈₅Si₂B₈P₄Cu₁ Nanocrystalline Alloy. [Journal of Applied Physics, **115** (17), (2014), 17A340-1-17A340-3]
Sharma P., Zhang X., Zhang Y., Makino A.
- 52) Nano-Crystallization and Magnetic Mechanisms of Fe₈₅Si₂B₈P₄Cu₁ Amorphous Alloy by Ab Initio Molecular Dynamics Simulation. [Journal of Applied Physics, **115** (17), (2014), 173910-1-173910-5]
Wang Y.C., Takeuchi A., Makino A., Y.Y. Liang, Kawazoe Y.
- 53) Sintered Magnetic Cores of High B_s Fe_{84.3}Si₄B₈P₃Cu_{0.7} Nano-Crystalline Alloy with a Lamellar Microstructure. [Journal of Applied Physics, **115** (17), (2014), 17A322-1-17A322-3]
Zhang Y., Sharma P., Makino A.
- 54) Phase transition from fcc to bcc structure of the Cu-clusters during nanocrystallization of Fe_{85.2}Si₁B₉P₄Cu_{0.8} soft magnetic alloy. [AIP ADVANCES, **4** (5), (2014), 057129]
Matsuura, M; Takenaka, K; Takeuchi, A; Ofuchi, H; Makino, A;
- 55) Effect of Metalloid Elements on the Structures and Soft Magnetic Properties in Fe_{85.2}Si_xB_{14-x-y}P_yCu_{0.8} Alloys. [IEEE Transactions on Magnetics, **50** (4), (2014), 6668874-1-6668874-4]
Takenaka K., Nishijima M., Makino A.
- 56) X-Ray Absorption Studies of Fe_{85.2}Si₂B₈P₄Cu₁ Alloy. [IEEE TRANSACTIONS ON MAGNETICS, **50** (4), (2014), 2004004]
Nishijima, M, Matsuura, M, Zhang, Y, Takenaka, K, Makino, A

- 57) Dependence of Soft Magnetic Properties of Fe₈₁₋₈₅Si₂B₁₀P_{1.5-6}Cu₁ Alloys on P Content. [Ieee Transactions on Magnetism, **50** (4), (2014), 2003104]
Dan, Z. H.; Yamada, Y.; Makino, A
- 58) Potential of Metallic Glass Thin Films as a Soft Magnetic Underlayer for L1(0) FePt-Based. [IEEE TRANSACTIONS ON MAGNETICS, **50** (4), (2014), 3201404]
Kaushik, N; Sharma, P; Makino, A; Tanaka, S; Esashi, M
- 59) Role of P in Nanocrystallization of Fe₈₅Si₂B₈P₄Cu₁. [IEEE TRANSACTIONS ON MAGNETICS, **50** (4), (2014), 2003304]
Matsuura, M; Zhang, Y; Nishijima, M; Makino, A;
- 60) Effects of Cobalt Addition in Nanocrystalline Fe_{83.3}Si₄B₈P₄Cu_{0.7} Soft Magnetic Alloy. [Ieee Transactions on Magnetism, **50** (4), (2014), 2003004]
Zhang, Y.; Sharma, P.; Makino, A.
- 61) Magnetic memory effects in nickel ferrite/polymer nanocomposites. [Applied Physics Letters, **104** (12), (2014), 122407-1-122407-5]
Malik R, Sehdev N., Lamba S., Sharma P., Makino A., Annapoorni S.
- 62) Fabrication of nanoporous copper by dealloying of amorphous Ti-Cu-Ag alloys. [Journal of Alloys and Compounds, **586**, (2014), 134-138]
Dan Z., Qin F.X., Makino A., Sugawara Y., Muto I., Hara
- 63) Effect of P addition on the structure and magnetic properties of melt-spun Fe-Pt-B alloy. [Journal of Alloys and Compounds, **586**, (2014), 294-297]
Zhang W., Kazahari A., Yubuta K., Makino A., Wang Y.M., Umetsu R., Li Y.H.
- 64) Micro viscous flow processing of Fe-based metallic glassy particles. [Journal of Alloys and Compounds, **615** (1), (2014), S61-S66]
Yodoshi N., Yamada R., Kawasaki A., Makino A.
- 65) Alloy Designs of High-Entropy Crystalline and Bulk Glassy Alloys by Evaluating Mixing Enthalpy and Delta Parameter for Quinary to Decimal Equi-Atomic Alloys. [Materials Transactions, **55** (1), (2014), 165-170]
Takeuchi A., Amiya K., Wada T., Yubuta K., Zhang W., Makino A.
- 66) Refinement of Nanoporous Copper by Dealloying MgCuY Amorphous Alloys in Sulfuric Acids Containing Polyvinylpyrrolidone. [Journal of the Electrochemical Society, **161** (3), (2014), C120-C125]
Dan Z.H., Qin F.X., Yamaura S., Xie G.Q., Makino A., Hara N.
- 67) Direct synthesis of amorphous carbon nanotubes on Fe₇₆Si₉B₁₀P₅ glassy alloy particles. [Journal of Alloys and Compounds, **581**, (2013), 282-288]
He C., Chen L., Shi C., Zhang C., Liu E., Li J., Zhao N., Wang X.M., Makino A., Inoue A.
- 68) Effects of cryogenic temperatures on mechanical behavior of a Zr₆₀Ni₂₅Al₁₅ bulk metallic glass. [MATERIALS SCIENCE AND ENGINEERING A-STRUCTURAL MATERIALS PROPERTIES MICROSTRUCTURE AND PROCESSING, **584**, (2013), 7-13]
Li, YH, Zhang, W, Dong, C, Kawashima, A, Makino, A, Liaw, PK
- 69) Nanoporous palladium fabricated from an amorphous Pd_{42.5}Cu₃₀Ni_{7.5}P₂₀ precursor and its ethanol electro-oxidation performance. [Electrochimica Acta, **108**, (2013), 512-519]
Dan Z., Qin F.X., Wada T., Yamaura S., Xie G.Q., Sugawara Y., Muto I., Makino A., Hara N.
- 70) Entropies in Alloy Design for High-Entropy and Bulk Glassy Alloys. [Entropy, **15** (9), (2013), 3810-3821]
Takeuchi A., Amiya K., Wada T., Yubuta K., Zhang W., Makino A.
- 71) Effects of P Addition on Corrosion Properties of Soft Magnetic FeSiB Alloys. [Materials Transactions, **54** (9), (2013), 1691-1696]

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- 72) Glass-Forming Ability, Corrosion Resistance and Mechanical Properties of $Zr_{60-x}Al_{15}Ni_{25}TM_x$ (TM = Nb and Ta) Bulk Metallic Glasses. [Materials Transactions, **54** (8), (2013), 1368-1372]
 Li Y.H., Zhang W., Dong C., Yamaura S., Makino A.
- 73) On the growth and magnetic properties of flower-like nanostructures formed on diffusion of FePt with Si substrate. [JOURNAL OF MAGNETISM AND MAGNETIC MATERIALS, **337**, (2013), 38-45]
 Sharma, P, Kaushik, N, Esashi, M, Nishijima, M, Makino, A
- 74) Isothermal Crystallization of Iron-Based Amorphous Alloys in a High Magnetic Field. [Materials Transactions, **54** (7), (2013), 1232-1235]
 Onodera R., Kimura S., Watanabe K., Yokoyama Y., Makino A.
- 75) Sintered powder cores of high Bs and low coreloss Fe_{84.3}Si₄B₈P₃Cu_{0.7} nano-crystalline alloy. [AIP Advances, **3**, (2013), 062118]
 Yan Zhang, Parmanand Sharma, Akihiro Makino
- 76) Correlation between the glass-forming ability and activation energy of crystallization for $Zr_{75-x}Ni_{25}Al_x$ metallic glasses. [International Journal of Minerals Metallurgy and Materials, **20** (5), (2013), 445-449]
 Yan-hui Li, Wei Zhang, Chuang Dong, Jian-bing Qiang, Akihiro Makino
- 77) Magnetic properties and structure of Fe_{83.3-85.8}B_{7.0-4.5}P₉Cu_{0.7} nanocrystalline alloys. [J. Appl. Phys., **113**, (2013), 17A311]
 Akiri Urata, Makoto Yamaki, Kaoru Satake, Hiroyuki Matsumoto, Akihiro Makino
- 78) Nickel-stabilized nanoporous copper fabricated from ternary TiCuNi amorphous alloys. [MATERIALS LETTERS, **94**, (2013), 128-131]
 Dan, ZH, Qin, FX, Sugawara, Y, Muto, I, Makino, A, Hara, N
- 79) Glass-forming ability and mechanical properties of Zr-Ni-Al bulk metallic glasses with high Zr content. [Materials Science Forum, **750**, (2013), 306-310]
 Li, Y, Zhang, W, Dong, C, Makino, A
- 80) Electrochemical behavior of annealed soft-magnetic FeSiBPCu alloy. [Materials Transactions, **54** (4), (2013), 561-565]
 Dan, Z, Yamada, Y, Zhang, Y, Nishijima, M, Hara, N, Matsumoto, H, Makino, A
- 81) Magnetic Field Effects on Crystallization of Iron-Based Amorphous Alloys. [Materials Transactions, **54** (2), (2013), 188-191]
 Onodera, R, Kimura, S, Watanabe, K, Lee, S, Yokoyama, Y, Makino, A, Koyama, K
- 82) Effects of Cu, Fe and Co addition on the glass-forming ability and mechanical properties of Zr-Al-Ni bulk metallic glasses. [SCIENCE CHINA-PHYSICS MECHANICS & ASTRONOMY, **55** (12), (2012), 2367-2371]
 Li, YH, Zhang, W, Dong, C, Makino, A
- 83) Role of Si in high B-s and low core-loss Fe_{85.2}B₁₀-XP₄Cu_{0.8}SiX nano-crystalline alloys. [JOURNAL OF APPLIED PHYSICS, **112** (10), (2012), 103902]
 Zhang, ZQ, Sharma, P, Makino, A
- 84) Formation of bulk metallic glass in situ nanocomposite in (Cu₅₀Zr₄₃Al₇)(99)Si-1 alloy. [MATERIALS SCIENCE AND ENGINEERING A-STRUCTURAL MATERIALS PROPERTIES MICROSTRUCTURE AND PROCESSING, **553**, (2012), 10-13]
 Malekan, M, Shabestari, SG, Zhang, W, Seyedein, SH, Gholamipour, R, Yubuta, K, Makino, A, Inoue, A
- 85) Enhancement of glass-forming ability of FeSiBP bulk glassy alloys with good soft-magnetic properties and high corrosion resistance. [JOURNAL OF ALLOYS AND COMPOUNDS, **533**, (2012), 67-70]
 Chang, CT, Qin, CL, Makino, A, Inoue, A

- 86) Formation and Thermal Stability of Cu-Based Metallic Glasses with High Glass-Forming Ability. [METALLURGICAL AND MATERIALS TRANSACTIONS A-PHYSICAL METALLURGY AND MATERIALS SCIENCE, **43A** (8), (2012), 2592-2597]
Zhou, BW, Zhang, W, Zhang, XG, Kimura, H, Makino, A, Inoue, A
- 87) Fabrication and Characterization of an FeBNdNb Magnetic Metallic Glass Thin Film. [JAPANESE JOURNAL OF APPLIED PHYSICS, **51** (5), (2012), 055803]
Phan, TA, Lee, S, Makino, A, Oguchi, H, Okamoto, H, Kuwano, H
- 88) Nanocrystalline Soft Magnetic Fe-Si-B-P-Cu Alloys With High B of 1.8-1.9T Contributable to Energy Saving. [IEEE TRANSACTIONS ON MAGNETICS, **48** (4), (2012), 1331-1335]
Makino, A
- 89) Low core loss of non-Si quaternary Fe_{83.3}B₈P₈Cu_{0.7} nanocrystalline alloy with high B-s of 1.7 T. [JOURNAL OF APPLIED PHYSICS, **111** (7), (2012), 07A335]
Urata, A, Yamaki, M, Takahashi, M, Okamoto, K, Matsumoto, H, Yoshida, S, Makino, A
- 90) Synthesis, microstructure and magnetic properties of low Nd content Fe₉₀Nd₅B_{3.5}M_{1.5} (M = Hf, Ti and Ta) alloys. [JOURNAL OF APPLIED PHYSICS, **111** (7), (2012), 07B501]
Zhang, ZQ, Sharma, P, Yubuta, K, Makino, A
- 91) Magnetization reversal in a preferred oriented (111) L1(0) FePt grown on a soft magnetic metallic glass for tilted magnetic recording. [JOURNAL OF PHYSICS-CONDENSED MATTER, **24** (7), (2012), 076004]
Wang, YC, Sharma, P, Makino, A
- 92) Fabrication of nanocrystalline Fe 84.3Si 4B 8P 3Cu 0.7 powders with high magnetization. [Key Engineering Materials, **508**, (2012), 133-140]
Zhang, Y, Wen, Y, Makino, A.
- 93) The effect of Co addition on glassy forming ability and soft magnetic properties of Fe-Si-B-P bulk metallic glass. [Key Engineering Materials, **508**, (2012), 112-116]
Li, X., Zhang, Y., Kato, H., Makino, A., Inoue, A.
- 94) New Fe-B-P-Cu nanocrystalline soft magnetic alloys with high J s combined with low coercivity H c. [Key Engineering Materials, **508**, (2012), 99-105]
Zhang, Z., Sharma, P., Makino, A.
- 95) Spark Plasma Sintering of Soft Magnetic Fe-Si-B-P-Cu Nanocrystalline Alloy in the Form of Magnetic Cores. [MATERIALS TRANSACTIONS, **52** (12), (2011), 2254-2257]
Zhang, Y, Sharma, P, Makino, A
- 96) Effects of Spark Plasma Sintering Parameters on the Crystallization and Densification of Fe(76)Si(9)B(10)P(5) Atomization Powders. [JOURNAL OF INORGANIC AND ORGANOMETALLIC POLYMERS AND MATERIALS, **21** (4), (2011), 784-787]
Zhao, ZK, Wang, MG, Jia, SQ, Li, SL, Zhang, D, Makino, A
- 97) Effects of Ni addition on the glass-forming ability, mechanical properties and corrosion resistance of Zr-Cu-Al bulk metallic glasses. [MATERIALS SCIENCE AND ENGINEERING A-STRUCTURAL MATERIALS PROPERTIES MICROSTRUCTURE AND PROCESSING, **528** (29-30), (2011), 8551-8556]
Li, YH, Zhang, W, Dong, C, Qiang, JB, Fukuhara, M, Makino, A, Inoue, A
- 98) 無電解めっき法を用いた Ni-P アモルファス合金被覆燃料電池用セパレータの作製. [日本金属学会誌, **75** (10), (2011), 557-561]
金成哲, 山浦真一, 牧野彰宏, 井上明久
- 99) Characteristics of Fe-Si-B-P-Cu Nanocrystalline Soft Magnetic Alloy Powders With High Bs. [IEEE TRANSACTIONS ON MAGNETICS, **47** (10), (2011), 2845-2847]
Chiba, M, Urata, A, Matsumoto, H, Yoshida, S, Makino, A

- 100) Fe-Si-B-P-Cu Nanocrystalline Alloy Ribbons With High Saturation Magnetic Flux Density Prepared Using Industrial Materials. [IEEE TRANSACTIONS ON MAGNETICS, **47** (10), (2011), 3177-3179]
 Urata, A, Matsumoto, H, Yoshida, S, Makino, A
- 101) Anomalous Temperature Dependence of Coercivity at Low Temperature in L1(0) FePt Thin Films. [IEEE TRANSACTIONS ON MAGNETICS, **47** (10), (2011), 4394-4397]
 Sharma, P, Kaushik, N, Makino, A, Inoue, A
- 102) High glass forming ability and good mechanical properties of Cu-Zr-Al bulk metallic glasses. [MATERIALS RESEARCH INNOVATIONS, **15** (5), (2011), 310-313]
 Zhou, BW, Zhang, XG, Zhang, W, Kimura, H, Makino, A, Inoue, A
- 103) Enhancement of soft magnetic properties of FeCoNbB nanocrystalline alloys with Cu and Ni additions. [THIN SOLID FILMS, **519** (23SI), (2011), 8280-8282]
 Kong, FL, Shen, BL, Makino, A, Inoue, A
- 104) Effect of P on crystallization behavior and soft-magnetic properties of Fe(83.3)Si(4)Cu(0.7)B(12-x)P(x) nanocrystalline soft-magnetic alloys. [THIN SOLID FILMS, **519** (23SI), (2011), 8283-8286]
 Wang, AD, Men, H, Shen, BL, Xie, GQ, Makino, A, Inoue, A
- 105) Fe(76)Si(9.6)B(8.4)P(6) glassy powder soft-magnetic cores with low core loss prepared by spark-plasma sintering. [MATERIALS SCIENCE AND ENGINEERING B-ADVANCED FUNCTIONAL SOLID-STATE MATERIALS, **176** (15), (2011), 1247-1250]
 Li, X, Makino, A, Kato, H, Inoue, A, Kubota, T
- 106) Micromirror with large-tilting angle using Fe-based metallic glass. [OPTICS LETTERS, **36** (17), (2011), 3464-3466]
 Lee, JW, Lin, YC, Kaushik, N, Sharma, P, Makino, A, Inoue, A, Esashi, M, Gessner, T
- 107) Mo microalloying effect on the glass-forming ability, magnetic, mechanical and corrosion properties of (Fe(0.76)Si(0.096)B(0.084)P(0.06))_{100(-x)}Mo(x) bulk glassy alloys. [JOURNAL OF ALLOYS AND COMPOUNDS, **509** (29), (2011), 7688-7691]
 Li, X, Qin, CL, Kato, H, Makino, A, Inoue, A
- 108) Enhancement of glass-forming ability and corrosion resistance of Zr-based Zr-Ni-Al bulk metallic glasses with minor addition of Nb. [JOURNAL OF APPLIED PHYSICS, **110** (2), (2011), 23513]
 Li, YH, Zhang, W, Dong, C, Qin, CL, Qiang, JB, Makino, A, Inoue, A
- 109) Improved plasticity of iron-based high-strength bulk metallic glasses by copper-induced nanocrystallization. [JOURNAL OF NON-CRYSTALLINE SOLIDS, **357** (15), (2011), 3002-3005]
 Li, X, Kato, H, Yubuta, K, Makino, A, Inoue, A
- 110) Glass-forming ability and soft magnetic properties of (Co(0.6)Fe(0.3)Ni(0.1))(67)B(22+x)Si(6-x)Nb(5) bulk glassy alloys. [JOURNAL OF ALLOYS AND COMPOUNDS, **509** (1), (2011), S206-S209]
 Dong, YQ, Man, QK, Sun, HJ, Shen, BL, Pang, SJ, Zhang, T, Makino, A, Inoue, A
- 111) Low core loss of Fe(85)Si(2)B(8)P(4)Cu(1) nanocrystalline alloys with high B(s) and B(800). [JOURNAL OF ALLOYS AND COMPOUNDS, **509** (1), (2011), S416-S419]
 Kubota, T, Makino, A, Inoue, A
- 112) Fe-B-P-Cu nanocrystalline soft magnetic alloys with high B(s). [JOURNAL OF ALLOYS AND COMPOUNDS, **509** (1), (2011), S431-S433]
 Urata, A, Matsumoto, H, Yoshida, S, Makino, A
- 113) L1(0) FePt(111)/glassy CoFeTaB bilayered structure for patterned media. [JOURNAL OF APPLIED PHYSICS, **109** (7), (2011), 07B908]
 Sharma, P, Kaushik, N, Makino, A, Esashi, M, Inoue, A

- 114) Fe-based nanocrystalline FeBCCu soft magnetic alloys with high magnetic flux density. [JOURNAL OF APPLIED PHYSICS, **109** (7), (2011), 07A314]
Fan, XD, Ma, AB, Men, H, Xie, GQ, Shen, BL, Makino, A, Inoue, A
- 115) High B(s) Fe(84-x)Si(4)B(8)P(4)Cu(x)(x=0-1.5) nanocrystalline alloys with excellent magnetic softness. [JOURNAL OF APPLIED PHYSICS, **109** (7), (2011), 07A303]
Kong, FL, Wang, AD, Fan, XD, Men, H, Shen, BL, Xie, GQ, Makino, A, Inoue, A
- 116) Low core losses and magnetic properties of Fe(85-86)Si(1-2)B(8)P(4)Cu(1) nanocrystalline alloys with high B for power applications. [JOURNAL OF APPLIED PHYSICS, **109** (7), (2011), 07A302]
Makino, A, Kubota, T, Yubuta, K, Inoue, A, Urata, A, Matsumoto, H, Yoshida, S
- 117) Production of Ni-P Amorphous Alloy-Coated Bipolar Plate for PEM Fuel Cell by Electro-Less Plating. [MATERIALS TRANSACTIONS, **52** (4SI), (2011), 709-713]
Kim, S, Yamaura, S, Makino, A, Inoue, A
- 118) 高速ガスフレーム溶射法を用いた Ni-Cr-P-B 合金被覆燃料電池セパレータの創製とその XPS 表面分析. [日本金属学会誌, **75** (2), (2011), 122-130]
金成哲, 山浦真一, 五十嵐貴教, 清水雄太, 中島浩二, 牧野彰宏, 井上明久
- 119) Glass-forming ability and mechanical properties of Zr(75-x)Ni(25)Al(x) bulk glassy alloys. [JOURNAL OF MATERIALS RESEARCH, **26** (4), (2011), 533-538]
Li, YH, Zhang, W, Dong, C, Qiang, JB, Makino, A, Fukuhara, M, Inoue, A
- 120) Effect of Si addition on glass-forming ability and mechanical properties of Cu-Zr-Al bulk metallic glass. [Materials Science and Engineering a-Structural Materials Properties Microstructure and Processing, **527** (27-28), (2010), 7192-7196]
Malekan M, Shabestari SG, Zhang W, Seyedein SH, Gholamipour R, Makino A, Inoue A
- 121) Enhancement of glass-forming ability of CoFeBSiNb bulk glassy alloys with excellent soft-magnetic properties and superhigh strength. [Intermetallics, **18** (10), (2010), 1876-1879]
Man QK, Sun HJ, Dong YQ, Shen BL, Kimura H, Makino A, Inoue A
- 122) Formation and mechanical properties of Zr-Ni-Al glassy alloys with high glass-forming ability. [Intermetallics, **18** (10), (2010), 1851-1855]
Li YH, Zhang W, Dong C, Qiang JB, Makino A, Inoue A
- 123) Magnetic Properties of Rapidly Solidified Ribbon of Fe₄₉Co₄₉V₂ and Spark-Plasma-Sintered Pellet of Its Powder. [Materials Transactions, **51** (10), (2010), 1883-1886]
Matsumoto M, Kubota T, Yokoyama M, Okazaki T, Furuya Y, Makino A, Shimada M
- 124) Production of Ni₆₅Cr₁₅P₁₆B₄ Metallic Glass-Coated Bipolar Plate for Fuel Cell by High Velocity Oxy-Fuel (HVOF) Spray Coating Method. [Materials Transactions, **51** (9), (2010), 1609-1613]
Kim S, Yamaura S, Shimizu Y, Nakashima K, Igarashi T, Makino A, Inoue A
- 125) Domain wall assisted magnetization switching in (111) oriented L1(0) FePt grown on a soft magnetic metallic glass. [Applied Physics Letters, **97** (7), (2010), 72510]
Kaushik N, Sharma P, Yubuta K, Makino A, Inoue A
- 126) Effect of Nb addition on the glass-forming ability, mechanical and soft-magnetic properties in (Co_{0.942}Fe_{0.058})(72-x)NbxB_{22.4}Si_{5.6} bulk glassy alloys. [Journal of Alloys and Compounds, **504**, (2010), S31-S33]
Sun HJ, Man QK, Dong YQ, Shen BL, Kimura H, Makino A, Inoue A
- 127) Effect of Co concentration on thermal stability and magnetic properties of (Fe,Co)-Nb-Gd-B glassy alloys. [Journal of Alloys and Compounds, **504**, (2010), S129-S131]
Jia F, Zhang W, Zhang XG, Xie GQ, Kimura H, Makino A, Inoue A

- 128) Glass-forming ability and magnetic properties of CoFeMoYB bulk glassy alloys with large supercooled liquid region. [Journal of Alloys and Compounds, **504**, (2010), S132-S134]
 Man QK, Sun HJ, Dong YQ, Shen BL, Kimura H, Makino A, Inoue A
- 129) Unusual compressive plasticity of a centimeter-diameter Zr-based bulk metallic glass with high Zr content. [Journal of Alloys and Compounds, **504**, (2010), S2-S5]
 Li YH, Zhang W, Dong C, Qiang JB, Yubuta K, Makino A, Inoue A
- 130) Exchange-coupled FePtB nano-composite hard magnets produced by pulsed laser deposition. [Materials Science and Engineering B-Advanced Functional Solid-State Materials, **171** (1-3), (2010), 62-68]
 Kaushik N, Sharma P, Nagar S, Rao KV, Kimura H, Makino A, Inoue A
- 131) High B-s FeSiBPCu Nanocrystalline Wide Ribbons Using Industrial Raw Materials. [Materials Science Forum, **654-656**, (2010), 1102-1105]
 Akiri Urata, Hiroyuki Matsumoto, Shigeyoshi Yoshida, Akihiro Makino
- 132) Enhanced glass-forming ability of FeCoBSiNb bulk glassy alloys prepared using commercial raw materials through the optimization of Nb content. [Journal of Applied Physics, **107**, (2010), 09A315]
 Ying Fu, Baolong Shen, Hisamichi Kimura, Akihiro Makino, Akihisa Inoue
- 133) Effect of Cu on nanocrystallization and plastic properties of FeSiBPCu bulk metallic glasses. [Materials Science and Engineering a-Structural Materials Properties Microstructure and Processing, **527** (10-11), (2010), 2598-2602]
 Li X, Kato H, Yubuta K, Makino A, Inoue A
- 134) Synthesis and Mechanical Properties of New Cu-Based Cu-Zr-Al Glassy Alloys with Critical Diameters up to Centimeter Order. [Materials Transactions, **51** (4), (2010), 826-829]
 B. W. Zhou, X. G. Zhang, W. Zhang, H. Kimura, T. Zhang, A. Makino, A. Inoue
- 135) Effects of B and Si contents on glass-forming ability and soft-magnetic properties in $(\text{Co}_{0.89}\text{Fe}_{0.057}\text{Nb}_{0.053})_{100-x}(\text{B}_{0.8}\text{Si}_{0.2})_x$ glassy alloys. [Journal of Applied Physics, **107**, (2010), 09A319]
 Huaijun Sun, Qikui Man, Yaqian Dong, Baolong Shen, Hisamichi Kimura, Akihiro Makino, Akihisa Inoue
- 136) Effect of Cu and P on the Crystallization Behavior of Fe-Rich Hetero-Amorphous FeSiB Alloy. [MATERIALS TRANSACTIONS, **50** (11), (2009), 2515-2520]
 Cui Liying, Men He, Makino Akihiro, Kubota Takeshi, Yubuta Kunio, Qi Min, Inoue Akihisa
- 137) New Excellent Soft Magnetic FeSiBPCu Nanocrystallized Alloys With High B-s of 1.9 T From Nanohetero-Amorphous Phase. [IEEE TRANSACTIONS ON MAGNETICS, **45** (10), (2009), 4302-4305]
 Makino Akihiro, Men He, Kubota Takeshi, Yubuta Kunio, Inoue Akihisa
- 138) High saturation magnetization and microstructure in melt-spun Fe-P ribbons. [Scripta Materialia, **61** (5), (2009), 544-547]
 Gopalan R, Chen YM, Ohkubo T, Hono K
- 139) Structure, morphology and magnetic properties of Fe-B-Si-Nb glassy alloy thin film prepared by a pulsed laser deposition method. [MATERIALS LETTERS, **63** (21), (2009), 1895-1897]
 Takenaka Kana, Sugimoto Toshio, Nishiyama Nobuyuki, Makino Akihiro, Saotome Yasunori, Hirotsu Yoshihiko, Inoue Akihisa
- 140) Soft magnetic Fe-Si-B-P-C bulk metallic glasses without any glass-forming metal elements. [JOURNAL OF ALLOYS AND COMPOUNDS, **483** (1-2), (2009), 616-619]
 Makino Akihiro, Chang Chuntao, Kubota Takeshi, Inoue Akihisa
- 141) Evaluation of glass-forming ability of binary metallic glasses with liquidus temperature, crystallographic data from binary phase diagrams and molecular dynamics simulations. [JOURNAL OF ALLOYS AND COMPOUNDS, **483** (1-2), (2009), 102-106]
 Takeuchi A., Yubuta K., Makino A., Inoue A.

- 142) Fe-Rich Soft Magnetic FeSiBPCu Hetero-Amorphous Alloys with High Saturation Magnetization. [MATERIALS TRANSACTIONS, **50** (6), (2009), 1330-1333]
He Men, Cui Liying, Kubota Takeshi, Yubuta Kunio, Makino Akihiro, Inoue Akihisa
- 143) Mechanical Properties of Soft Magnetic (Fe_{0.76}Si_{0.096}B_{0.084}P_{0.06})(100-x)Cu-x (x=0 and 0.1) Bulk Glassy Alloys. [MATERIALS TRANSACTIONS, **50** (6), (2009), 1286-1289]
Li Xue, Makino Akihiro, Yubuta Kunio, Kato Hidemi, Inoue Akihisa
- 144) Synthesis of ferromagnetic Fe-based bulk glassy alloys in the Fe-Si-B-P-C system. [JOURNAL OF ALLOYS AND COMPOUNDS, **473** (1-2), (2009), 368-372]
Chang Chuntao, Kubota Takeshi, Makino Akihiro, Inoue Akihisa
- 145) New Fe-metalloids based nanocrystalline alloys with high B-s of 1.9 T and excellent magnetic softness. [JOURNAL OF APPLIED PHYSICS, **105** (7), (2009), 07 A 308]
Makino Akihiro, Men He, Kubota Takeshi, Yubuta Kunio, Inoue Akihisa
- 146) To enhance the efficiency of a power supply circuit by the use of Fe-P-B-Nb-type ultralow loss glassy metal core. [JOURNAL OF APPLIED PHYSICS, **105** (7), (2009), 07 A 317]
Matsumoto H., Urata A., Yamada Y., Makino A.
- 147) High B-s nanocrystalline alloys with high amorphous-forming ability. [JOURNAL OF APPLIED PHYSICS, **105** (7), (2009), 07 A 324]
Urata A., Matsumoto H., Sato S., Makino A.
- 148) Local structure changes on annealing in an Fe-Si-B-P bulk metallic glass. [INTERMETALLICS, **17** (4), (2009), 186-189]
Hirata Akihiko, Kawahara Naoto, Hirotsu Yoshihiko, Makino Akihiro
- 149) Fabrication and soft-magnetic properties of Fe-B-Nb-Y glassy powder compacts by spark plasma sintering technique. [INTERMETALLICS, **17** (4), (2009), 218-221]
Lee Sangmin, Kato Hidemi, Kubota Takeshi, Makino Akihiro, Inoue Akihisa
- 150) The effect of Cu on the plasticity of Fe-Si-B-P-based bulk metallic glass. [Scripta Materialia, **60** (5), (2009), 277-280]
Makino A., Li X., Yubuta K., Chang C., Kubota T., Inoue A.
- 151) Preparation of Bulk Glassy Fe₇₆Si₉B₁₀P₅ as a Soft Magnetic Material by Spark Plasma Sintering. [MATERIALS TRANSACTIONS, **50** (3), (2009), 487-489]
Zhao ZK, Chang CT, Makino A, Okubo A, Inoue A
- 152) Displacement Behavior Study of the Shear Stress Effect on the Early Viscous Flow Nature of Fe-B-Nb-Y Metallic Glassy Powder in Spark Plasma Sintering. [MATERIALS TRANSACTIONS, **50** (3), (2009), 490-493]
Lee SM, Kato H, Makino A, Inoue A
- 153) Soft magnetic FeSiBPCu hetero-amorphous alloys with high Fe content exceeding the limit of the formation for a single amorphous phase. [Journal of Optoelectronics and Advanced Materials - Symposia, **1**(ISS.2-2009) (24), (2009), 119-122]
A. MAKINO, T. KUBOTA, H. MEN
- 154) FeSiBPCu Nanocrystalline Soft Magnetic Alloys with High B-s of 1.9 Tesla Produced by Crystallizing Hetero-Amorphous Phase. [MATERIALS TRANSACTIONS, **50** (1), (2009), 204-209]
Makino A, Men H, Kubota T, Yubuta K, Inoue A
- 155) Soft magnetic FeSiBPCu heteroamorphous alloys with high Fe content. [JOURNAL OF APPLIED PHYSICS, **105** (1), (2009), 13922]
Makino A, Men H, Yubuta K, Kubota T

- 156) Effect of Cr Addition on the Glass-Forming Ability, Magnetic, Mechanical and Corrosion Properties of $(\text{Fe}_{0.76}\text{Si}_{0.096}\text{B}_{0.096}\text{P}_{0.048})_{(100-x)}\text{Cr}_x$ Bulk Glassy Alloys. [MATERIALS TRANSACTIONS, **49** (12), (2008), 2887-2890]
Li X, Chang CT, Kubota T, Qin CL, Makino A, Inoue A
- 157) FeSiBP bulk metallic glasses with high magnetization and excellent magnetic softness. [J. Magn. Magn. Mater., **320** (20), (2008), 2499-2503]
Makino, A; Kubota, T; Chang, C; Makabe, M; Inoue, A
- 158) Relationship between microstructures and soft magnetic properties of simultaneously P and Cu-added Fe-Nb-B ribbon alloys. [Mater. Trans., **49** (8), (2008), 1780-1784]
Yubuta, K; Mund, E; Makino, A; Inoue, A
- 159) Soft magnetic Fe-based metallic glasses prepared by fluxing and water-quenching. [Rev. Adv. Mater. Sci., **18** (2), (2008), 126-130]
Yamamoto, T; Yodoshi, N; Bitoh, T; Makino, A; Inoue, A
- 160) Fe-metalloids bulk glassy alloys with high Fe content and high glass-forming ability. [Materials Research Society, **23** (5), (2008), 1339-1342]
Akihiro Makino, Takeshi Kubota, Chuntao Chang, Masahiro Makabe, Akihisa Inoue
- 161) Exchange coupling in nanocomposite FePtB thin film magnets. [JOURNAL OF APPLIED PHYSICS, **103** (7), (2008), 07E121]
Kaushik Neelam, Sharma Parmanand, Kimura Hisamichi, Inoue Akihisa, Makino Akihiro
- 162) Excellent Thermal Stability and Bulk Glass Forming Ability of Fe-B-Nb-Y Soft Magnetic Metallic Glass. [Materials Transactions, **49** (3), (2008), 506-512]
Sangmin Lee, Hidemi Kato, Takeshi Kubota, Kunio Yubuta, Akihiro Makino, Akihisa Inoue
- 163) Noncrystalline atomic arrangements computationally created from crystalline compound by treating groups of atoms as hypothetical clusters. [INTERMETALLICS, **16**, (2008), 283-292]
Takeuchi, A., Yubuta, K. Yokoyama, Y. Makino, A., Inoue, A.
- 164) FeSiBP metallic glasses with high glass-forming ability and excellent magnetic properties. [Materials Science & Engineering B, **148**, (2008), 166-170]
Makino, A., Kubota, T., Makabe, M., Chang, C.T., Inoue, A.
- 165) Synthesis of soft/hard magnetic FePt-based glassy alloys with supercooled liquid region. [J. Appl. Phys., **104** (10), (2008), 103540]
Makino A., Kazahari A., Zhang W., Yubuta K., Kubota T., Inoue A.
- 166) Excellent soft-magnetic properties of $(\text{Fe,Co})\text{-Mo-(P,C,B,Si)}$ bulk glassy alloys with ductile deformation behavior. [Appl. Phys. Lett., **91**, (2007), 234101]
Li, FS; Shen, B; Makino, A; Inoue, A
- 167) High specific strength and improved ductility of bulk $(\text{Mg}_{0.65}\text{Cu}_{0.25}\text{Gd}_{0.1})_{(100-x)}\text{Ti}_x$ metallic glass composites. [Mater. Trans., **48**, (2007), 3193-3196]
Li, F; Guan, S; Shen, B; Makino, A; Inoue, A
- 168) FeSiBP bulk metallic glasses with unusual combination of high magnetization and high glass-forming ability. [Mater. Trans., **48**, (2007), 3024-3027]
Makino, A; Kubota, T; Chang, C; Makabe, M; Inoue, A
- 169) Direct synthesis of $\text{L1}(0)\text{-(Fe, Co)Pt}$ nanocrystallites from $(\text{Fe, Co})\text{-Pt-Zr-B}$ liquid phase by melt-spinning. [J. Non-Cryst. Solids, **353**, (2007), 3655-3660]
Makino, A; Bitoh, T; Nakagawa, M
- 170) Melting Liquid Joint Method of Ti(Cu)-base Bulk Metallic Glassy Alloy. [Advanced Materials Research, **26-28**, (2007), 707-710]

Kunsu Son, Xinmin Wang, Akihiro Makino and Akihisa Inoue

- 171) Magnetic macrostructural study of L1(0) nanocrystalline FePt alloys by means of electron holography. [Mater. Trans., **48**, (2007), 2612-2615]
Xia, WX; Kim, JJ; Shindo, D; Makino, A
- 172) Improvement of soft magnetic properties by simultaneous addition of P and Cu for nanocrystalline FeNbB alloys. [Journal of Applied Physics, **101**, (2007), 09N117]
Akihiro Makino, Masaki Bingo, Teruo Bitoh, Kunio Yubuta and Akihisa Inoue
- 173) Influence of quenching rate on the microstructure and magnetic properties of melt-spun L1₀-FePt/Fe₂B nanocomposite magnets. [Journal of Applied Physics, **101** (09K518), (2007)]
W.Zhang, K.Yubuta, P.Sharma, A.Makino, A.Inoue
- 174) Melt-spun L1(0) Fe-Pt-(Zr, Nb and Ti)-B nanocrystalline alloys with high coercivity. [MATERIALS SCIENCE AND ENGINEERING A, **449-451**, (2007), 66-70]
Makino. A, Bitoh. T, Inoue. A, Hirotu. Y
- 175) Magnetic properties and microstructure of FePt-M-B (M = Zr, Nb, La) films. [Journal of Magnetism and Magnetic Materials, **310**, (2007), 2527-2528]
H.Okumura, S.Nishinakagawa, T.Bitoh, A.Makino, K.Sato, Y.Hirotsu
- 176) Compositional dependence of soft magnetic properties of nanocrystalline Fe-Nb-B-P-Cu alloy tapes produced in air. [Journal of Magnetism and Magnetic Materials, **310**, (2007), 2469-2470]
M.Bingo, T.Bitoh, A.Makino
- 177) Hard magnetic properties of melt-spun(Fe_{0.55}Pt_{0.45})-(Nb, Ti)-B nanocrystalline alloys with L1₀ structure. [Journal of Magnetism and Magnetic Materials, **310**, (2007), e855-e857]
M.Makebe, M.Nakagawa. T.Bitoh, A.Makino
- 178) Preparation of Fe-Pt-Si amorphous ribbons and their coercivity after crystallization. [Mater. Trans., **48**, (2007), 74-79]
T.Yamamoto; A.Omori; A.Makino; A.Inoue
- 179) Soft Magnetic Bulk Glassy Alloy Synthesized by Flux Melting and Water Quenching. [Materials Science Forum, **539-543**, (2007), 1921-1925]
A.Makino, T.Bitoh, A.Inoue, A.L.Greer
- 180) Fe-Metalloid Metallic Glasses with High Magnetic Flux Density and High Glass-Forming Ability. [Materials Science Forum, **561-565**, (2007), 1361-1366]
A.Makino, T.Kubota, M.Makabe, C.T.Chang, A.Inoue
- 181) Magnetic properties and structure of Fe-Pt-M-B (M = Zr, Nb and Ti) alloys produced by quenching technique. [Journal of Alloys and Compounds, **434-435**, (2007), 614-617]
Akihiro Makino, Teruo Bitoh, Akihisa Inoue and Yoshihiko Hirotu
- 182) Local structure studies of Fe-Nb-B metallic glasses using electron diffraction. [JOURNAL OF MICROSCOPY-OXFORD, **223**, (2006), 191-194]
A. Hirata, Y. Hirotsu, T. Ohkubo, E. Matsubara, A. Makino
- 183) Large bulk soft magnetic [(Fe_{0.5}Co_{0.5})(0.75)B_{0.20}Si_{0.05}] (96)Nb-4 glassy alloy prepared by B₂O₃ flux melting and water quenching. [Applied Physics Letters, **88** (18), (2006), 182510-1-182510-3]
Teruo Bitoh, Akihiro Makino, Akihisa Inoue, A. L. Greer
- 184) Origin of low coercivity of (Fe_{0.75}B_{0.15}Si_{0.10})(100-x)Nb-x (x=1-4) glassy alloys. [Journal of Applied Physics, **99** (8), (2006), 08F102-1-08F102-3]
Teruo Bitoh, Akihiro Makino, Akihisa Inoue

- 185) Formation of Large Bulk [(Fe_{0.5}Co_{0.5})_{0.75}B_{0.20}Si_{0.05}] ₉₆Nb₄ Glassy Alloy by Flux Melting and Water Quenching. [Materials Research Society Symposium Proceedings, **903E**, (2006), 0903-Z05-18.1-0903-Z05-18.4]
 Teruo Bitoh, Akihiro Makino, Akihisa Inoue, A. Lindsay Greer
- 186) Magnetostriction and Coercivity of Soft Magnetic Fe-(Al, Ga)-(P, C, B, Si) Bulk Glassy Alloys. [Materials Research Society Symposium Proceedings, **754**, (2005), CC1.4-1-CC1.4-4]
 Akihiro Makino, Teruo Bitoh, Akihisa Inoue
- 187) Melting temperature and order-disorder transformation of melt-spun (Fe,Pt)-Zr-B nanocrystalline alloys. [SCRIPTA MATERIALIA, **53** (4), (2005), 429-434]
 Bitoh, T; Nakagawa, M; Makino, A
- 188) Microstructure and hard magnetic properties of directly synthesized L1(0)(Fe_{1-x}Pt_x)₍₇₈₎Zr₄B₁₈ nanocrystalline alloys by melt spinning. [JOURNAL OF APPLIED PHYSICS, **97** (10), (2005), 10H307-1-10H307-3]
 Bitoh, T; Makino, A; Nakagawa, M
- 189) Zero Temperature Coefficient and Stability of Electrical Resistibility of Ni-Si-B Amorphous Alloys. [Journal of Metastable and Nanocrystalline Materials, **24-25**, (2005), 229-232]
 T. Bitoh, A. Makino, M. Zama and H. Kudoh
- 190) Quasi-Dislocation Dipole Type-Defects and Low Coercivity of Fe-Based Soft Magnetic Glassy Alloys. [Journal of Metastable and Nanocrystalline Materials, **24-25**, (2005), 427-430]
 T. Bitoh, A. Makino and A. Inoue
- 191) 金属ガラスの軟磁気特性. [金属, **75** (2), (2005), 95-100]
 牧野彰宏、尾藤輝夫
- 192) Nanoscale phase separation in metallic glasses studied by advanced electron microscopy techniques. [INTERMETALLICS, **12** (10月11日), (2004), 1081-1088]
 Hirotsu, Y; Hanada, T; Ohkubo, T; Makino, A; Yoshizawa, Y; Nieh, TG
- 193) Direct synthesis of L1(0) (Fe_{0.55}Pt_{0.45})₍₇₇₋₇₈₎Zr₂₋₅B₁₇₋₂₀ nanocrystalline alloys with high coercivity by melt-spinning. [MATERIALS TRANSACTIONS, **45** (9), (2004), 2909-2915]
 Makino, A; Bitoh, T; Inoue, A
- 194) High coercivity of melt-spun (Fe_{0.55}Pt_{0.45})₍₇₈₎Zr₂₋₄B₁₈₋₂₀ nanocrystalline alloys with L1(0) structure. [JOURNAL OF APPLIED PHYSICS, **95** (11), (2004), 7498-7500]
 Makino, A; Bitoh, T
- 195) The effect of grain-size distribution on coercivity in nanocrystalline soft magnetic alloys. [JOURNAL OF MAGNETISM AND MAGNETIC MATERIALS, **272-76**, (2004), 1445-1446]
 Bitoh, T; Makino, A; Inoue, A
- 196) Crystallization behavior of alpha Fe in Fe₈₄Nb₇B₉ and Fe₈₅Nb₆B₉ amorphous alloys. [MATERIALS TRANSACTIONS, **45** (4), (2004), 1199-1203]
 Matsubara, E; Tanaka, S; Makino, A; Chiang, TH
- 197) Magnetization process and coercivity of Fe-(Al, Ga)-(P, C, B, Si) soft magnetic glassy alloys. [MATERIALS TRANSACTIONS, **45** (4), (2004), 1219-1227]
 Bitoh, T; Makino, A; Inoue, A
- 198) ナノ結晶 Fe-Nb-B(-P-Cu) 合金の微細構造と軟磁気特性. [日本応用磁気学会誌, **28** (3), (2004), 388-392]
 尾藤輝夫、牧野彰宏、井上明久、増本健
- 199) Random anisotropy model for nanocrystalline soft magnetic alloys with grain-size distribution. [MATERIALS TRANSACTIONS, **44** (10), (2003), 2011-2019]
 Bitoh, T; Makino, A; Inoue, A; Masumoto, T

- 200) Origin of low coercivity of Fe-(Al, Ga)-(P, C, B, Si, Ge) bulk glassy alloys. [MATERIALS TRANSACTIONS, **44** (10), (2003), 2020-2024]
Bitoh, T; Makino, A; Inoue, A
- 201) Domain structures of nanocrystalline Fe₉₀Zr₇B₃ alloy studied by Lorentz microscopy. [Science and Technology of Advanced Materials, **4** (4), (2003), 353-359]
Gao, Y, Shindo, D, Bitoh, T, Makino, A
- 202) Mediated exchange interaction in Fe-Nb-B nanocrystalline soft magnetic materials. [PHYSICAL REVIEW B, **67** (17), (2003), 172409-1-172409-4]
Gao, Y; Shindo, D; Bitoh, T; Makino, A
- 203) As-quenched and nanocrystallized structure for Nb-poor Fe-Nb-B-P-Cu soft magnetic alloys melt spun in air. [JOURNAL OF APPLIED PHYSICS, **93** (10), (2003), 6522-6524]
Makino, A; Bitoh, T
- 204) Magnetic microstructure of Fe₈₄Nb₇B₉ alloys observed by electron holography. [JOURNAL OF APPLIED PHYSICS, **93** (10), (2003), 7462-7464]
Gao, YH; Shindo, D; Bitoh, T; Makino, A
- 205) Nb-Poor Fe-Nb-B nanocrystalline soft magnetic alloys with small amount of P and Cu prepared by melt-spinning in air. [SCRIPTA MATERIALIA, **48** (7), (2003), 869-874]
Makino, A; Bitoh, T; Inoue, A; Masumoto, T
- 206) Microstructure and properties of nanocrystalline Fe-Zr-Nb-B soft magnetic alloys with low magnetostriction. [ACTA MATERIALIA, **49** (19), (2001), 4069-4077]
Wu, YQ; Bitoh, T; Hono, K; Makino, A; Inoue, A
- 207) Soft magnetic properties of nanocrystalline Fe-Nb-B-P alloys produced in the atmosphere by melt-spinning method. [MATERIALS TRANSACTIONS, **42** (8), (2001), 1535-1539]
Kojima, A; Ito, S; Makino, A; Inoue, A
- 208) Structural change of amorphous Fe₉₀Zr₇B₃ alloy in the primary crystallization process studied by modern electron microscope techniques. [MATERIALS SCIENCE AND ENGINEERING A-STRUCTURAL MATERIALS PROPERTIES MICROSTRUCTURE AND PROCESSING, **312** (1月2日), (2001), 274-283]
Ohkubo, T; Kai, H; Makino, A; Hirotsu, Y
- 209) Effect of Co addition on the magnetic properties of nanocrystalline Fe-rich Fe-Nb-(Nd,Pr)-B alloys produced by crystallization of an amorphous phase. [SCRIPTA MATERIALIA, **44** (8月9日), (2001), 1383-1387]
Kojima, A; Makino, A; Inoue, A
- 210) Effect of Nd substitution on the soft magnetic properties of a nanocrystalline Fe₈₄Nb₇B₉ alloy. [SCRIPTA MATERIALIA, **44** (8月9日), (2001), 1401-1405]
Takadate, K; Kojima, A; Makino, A; Inoue, A
- 211) Preparation of the bulk Fe-Al-Ga-P-C-B-Si glassy alloys in a ringed form by copper mold casting. [MATERIALS SCIENCE AND ENGINEERING A-STRUCTURAL MATERIALS PROPERTIES MICROSTRUCTURE AND PROCESSING, **304**, (2001), 763-766]
Ikarashi, K; Mizushima, T; Makino, A; Inoue, A
- 212) Structure and soft magnetic properties of bulk Fe-Al-Ga-P-C-B-Si glassy alloys prepared by consolidating amorphous powders. [MATERIALS SCIENCE AND ENGINEERING A-STRUCTURAL MATERIALS PROPERTIES MICROSTRUCTURE AND PROCESSING, **304**, (2001), 1019-1022]
Yoshida, S; Mizushima, T; Makino, A; Inoue, A
- 213) Low core losses of nanocrystalline Fe-Zr-Nb-B soft magnetic alloys with high magnetic flux density. [MATERIALS SCIENCE AND ENGINEERING A-STRUCTURAL MATERIALS PROPERTIES MICROSTRUCTURE AND PROCESSING, **304**, (2001), 1083-1086]
Makino, A; Bitoh, T; Kojima, A; Inoue, A; Masumoto, T

- 214) Soft magnetic properties of Fe-based bulk amorphous alloys. [MATERIALS TRANSACTIONS JIM, **41** (11), (2000), 1471-1477]
Makino, A; Inoue, A; Mizushima, T
- 215) Ferromagnetic bulk glassy alloys. [JOURNAL OF MAGNETISM AND MAGNETIC MATERIALS, **215**, (2000), 246-252]
Inoue, A; Makino, A; Mizushima, T
- 216) Magnetic properties of zero-magnetostrictive nanocrystalline Fe-Zr-Nb-B soft magnetic alloys with high magnetic induction. [JOURNAL OF MAGNETISM AND MAGNETIC MATERIALS, **215**, (2000), 288-292]
Makino, A; Bitoh, T; Kojima, A; Inoue, A; Masumoto, T
- 217) Thermal stabilities of the structure and magnetic properties in supercooled liquid region for Fe-Al-Ga-P-C-B-Si glassy alloys. [JOURNAL OF THE JAPAN INSTITUTE OF METALS, **64** (5), (2000), 303-306]
Fukumura, H; Mizushima, T; Makino, A; Inoue, A
- 218) Rapid-annealing effect on the microstructure and magnetic properties of the Fe-rich nanocomposite magnets. [JOURNAL OF APPLIED PHYSICS, **87** (9), (2000), 6576-6578]
Kojima, A; Makino, A; Inoue, A
- 219) Compositional dependence of the soft magnetic properties of the nanocrystalline Fe-Zr-Nb-B alloys with high magnetic flux density. [JOURNAL OF APPLIED PHYSICS, **87** (9), (2000), 7100-7102]
Makino, A; Bitoh, T; Kojima, A; Inoue, A; Masumoto, T
- 220) ナノ結晶 Fe-Zr-Nb-B 合金の軟磁気特性. [日本応用磁気学会誌, **24** (4-2), (2000), 675-678]
尾藤輝夫、牧野彰宏、小島章伸、井上明久、増本健
- 221) Ordering of island-like FePt crystallites with orientations. [APPLIED PHYSICS LETTERS, **75** (23), (1999), 3686-3688]
Bian, B; Sato, K; Hirotsu, Y; Makino, A
- 222) Soft magnetic properties of ring shape bulk glassy Fe-Al-Ga-P-C-B-Si alloy prepared by copper mold casting. [MATERIALS TRANSACTIONS JIM, **40** (9), (1999), 1019-1022]
Mizushima, T; Ikarashi, K; Yoshida, S; Makino, A; Inoue, A
- 223) Structure and soft magnetic properties of bulk Fe-based glassy alloy prepared by pulse current sintering. [JOURNAL OF THE JAPAN INSTITUTE OF METALS, **63** (9), (1999), 1097-1100]
Yoshida, S; Mizushima, T; Makino, A; Inoue, A
- 224) High-frequency permeability characteristics of Fe- and Co-based amorphous alloys with high B concentrations. [IEEE TRANSACTIONS ON MAGNETICS, **35** (5), (1999), 3355-3357]
Inoue, A; Itoi, T; Koshihara, H; Makino, A
- 225) Structure and magnetic properties of bulky Fe-Al-Ga-P-C-B-Si glassy alloys in a ringed form prepared by copper mold casting. [IEEE TRANSACTIONS ON MAGNETICS, **35** (5), (1999), 3361-3363]
Mizushima, T; Ikarashi, R; Makino, A; Inoue, A
- 226) A novel transmission-line type high frequency transformer using a fine-grain Mn-Zn ferrite. [IEEE TRANSACTIONS ON MAGNETICS, **35** (5), (1999), 3538-3540]
Inoue, T; Furukawa, M; Sato, T; Yamasawa, K; Takahashi, T; Sasaki, Y; Yamamoto, Y; Hatanai, T; Makino, A
- 227) Nanocrystalline soft magnetic Fe-M-B (M = Zr, Hf, Nb), Fe-M-O (M = Zr, Hf, rare earth) alloys and their applications. [NANOSTRUCTURED MATERIALS, **12** (5月8日), (1999), 825-828]
Makino, A; Inoue, A; Masumoto, T
- 228) Low core losses and soft magnetic properties of Fe-Al-Ga-P-C-B-Si glassy alloy ribbons with large thicknesses. [JOURNAL OF APPLIED PHYSICS, **85** (8), (1999), 4418-4420]

- Mizushima, T; Makino, A; Yoshida, S; Inoue, A
- 229) Effect of Ti, V, Cr, and Mn additions on the magnetic properties of a nanocrystalline soft magnetic Fe-Zr-B alloy with high magnetic flux density. [JOURNAL OF APPLIED PHYSICS, **85** (8), (1999), 5127-5129]
Bitoh, T; Nakazawa, M; Makino, A; Inoue, A; Masumoto, T
- 230) Fe-based soft magnetic amorphous alloys with a wide supercooled liquid region. [JOURNAL OF APPLIED PHYSICS, **85** (8), (1999), 5136-5138]
Koshihara, H; Inoue, A; Makino, A
- 231) Structures and magnetic properties of oriented Fe/Au and Fe/Pt nanoparticles on α -Al₂O₃. [JOURNAL OF ELECTRON MICROSCOPY, **48** (6), (1999), 753-759]
Bian, B; Hirotsu, Y; Sato, K; Ohkubo, T; Makino, A
- 232) EXAFS study on local structural changes in amorphous Fe-Zr-B alloys. [JAPANESE JOURNAL OF APPLIED PHYSICS PART 1-REGULAR PAPERS SHORT NOTES & REVIEW PAPERS, **38**, (1999), 404-407]
Nakata Y, Hara N, Hirotsu Y, Emura S, Makino A, Uruga T, Harada M, Nishihata Y, Yoneda Y, Kubozono Y
- 233) Compositional dependence of thermal stability and soft magnetic properties for Fe-Al-Ga-P-C-B glassy alloys. [Materials Research Society Symposium Proceedings, **554**, (1999), 155-160]
Mizushima, T., Makino, A., Yoshida, S., Inoue, A
- 234) Nanocrystalline soft magnetic Fe-M-B (M = Zr, Hf, Nb) "NANOPERM," Fe-M-O (M = Zr, Hf, rare earth) alloys and their applications. [MATERIALS RESEARCH SOCIETY SYMPOSIUM PROCEEDINGS, **557**, (1999), 457-468]
Makino, A., Inoue, A., Masumoto, T
- 235) Ferromagnetic Co-Fe-Zr-B amorphous alloys with glass transition and good high-frequency permeability. [APPLIED PHYSICS LETTERS, **73** (6), (1998), 744-746]
Inoue, A; Koshihara, H; Itoi, T; Makino, A
- 236) New bulk amorphous Fe-(Co,Ni)-M-B (M=Zr,Hf,Nb,Ta,Mo,W) alloys with good soft magnetic properties. [JOURNAL OF APPLIED PHYSICS, **83** (11), (1998), 6326-6328]
Inoue, A; Zhang, T; Koshihara, H; Makino, A
- 237) Influence of Si addition on thermal stability and soft magnetic properties for Fe-Al-Ga-P-C-B glassy alloys. [JOURNAL OF APPLIED PHYSICS, **83** (11), (1998), 6329-6331]
Mizushima, T; Makino, A; Inoue, A
- 238) Application of nanocrystalline soft magnetic Fe-M-B (M=Zr, Nb) alloys to choke coils. [JOURNAL OF APPLIED PHYSICS, **83** (11), (1998), 6332-6334]
Naitoh, Y; Bitoh, T; Hatanai, T; Makino, A; Inoue, A
- 239) New applications of nanocrystalline Fe(Co-Fe)-Hf-O magnetic films to micromagnetic devices. [JOURNAL OF APPLIED PHYSICS, **83** (11), (1998), 6658-6660]
Sato, T; Miura, Y; Matsumura, S; Yamasawa, K; Morita, S; Sasaki, Y; Hatanai, T; Makino, A
- 240) Fine grained Mn-Zn ferrite for high frequency driving. [JOURNAL OF APPLIED PHYSICS, **83** (11), (1998), 6861-6863]
Takadate, K; Yamamoto, Y; Makino, A; Yamaguchi, T; Sasada, I
- 241) Effect of buffer layer on antiferromagnetic grain size and exchange-coupling field of Cr₇₀Al₃₀/Fe₁₉Ni₈₁ bilayers. [JOURNAL OF APPLIED PHYSICS, **83** (11), (1998), 7213-7215]
Ikarashi, K; Otani, Y; Fukamichi, K; Kitakami, O; Shimada, Y; Echigoya, J; Uyama, H; Makino, A
- 242) Preparation and soft magnetic properties of Fe-based bulk amorphous alloys. [JOURNAL DE PHYSIQUE IV, **8** (P2), (1998), 3-10]
Inoue, A; Makino, A

- 243) Nanocrystalline soft magnetic Fe-M-B (M=Zr, Hf, Nb) alloys "NANOPERM" with high magnetic induction. [JOURNAL DE PHYSIQUE IV, **8** (P2), (1998), 103-106]
Makino, A; Bitoh, T; Murakami, JI; Hatanai, T; Inoue, A; Masumoto, T
- 244) Synthesis of glassy Fe-Co-Nd-Zr-B alloys and their crystallization-induced magnetic properties. [MATERIALS TRANSACTIONS JIM, **39** (3), (1998), 327-333]
Inoue, A; Fujita, K; Zhang, T; Makino, A
- 245) Wide supercooled liquid region and soft magnetic properties of Fe₅₆Co₇Ni₇Zr₀₋₁₀Nb (or Ta)₍₀₋₁₀₎B-20 amorphous alloys. [JOURNAL OF APPLIED PHYSICS, **83** (4), (1998), 1967-1974]
Inoue, A; Koshiba, H; Zhang, T; Makino, A
- 246) Applications of nanocrystalline soft magnetic Fe-M-B (M = Zr, Nb) alloys. [NANOSTRUCTURED MATERIALS, **8** (8), (1997), 987-995]
Naitoh, Y; Bitoh, T; Hatanai, T; Makino, A; Inoue, A; Masumoto, T
- 247) Nanocrystallization and magnetic properties of Fe₅₆Co₇Ni₇Zr₂M₈B₂₀ (M = Nb or Ta) glassy alloys. [NANOSTRUCTURED MATERIALS, **8** (8), (1997), 997-1005]
Koshiba, H; Inoue, A; Makino, A
- 248) Hard magnetic properties of nanocrystalline Fe-rich Fe-Nb-Nd-B bulk alloys produced by consolidating amorphous powders. [NANOSTRUCTURED MATERIALS, **8** (8), (1997), 1015-1024]
Kojima, A; Makino, A; Inoue, A
- 249) High frequency soft magnetic properties of nanocrystalline Fe-(Co)-Hf-O films with high electrical resistivity and their application to micro DC-DC converter. [NANOSTRUCTURED MATERIALS, **8** (8), (1997), 1025-1032]
Sasaki, Y; Morita, S; Hatanai, T; Makino, A; Sato, T; Yamasawa, K
- 250) Microstructure and magnetic property of Fe-Al₂O₃ granular films. [NANOSTRUCTURED MATERIALS, **8** (8), (1997), 1057-1066]
Bian, B; Hirotsu, Y; Makino, A
- 251) Fine grained ferrite for low profile transformer. [IEEE TRANSACTIONS ON MAGNETICS, **33** (5), (1997), 3742-3744]
Yamamoto, Y; Makino, A; Yamaguchi, T; Sasada, I
- 252) Thermal stability and magnetic properties of Fe-Al-Ga-P-C-B-Si amorphous thick sheets. [IEEE TRANSACTIONS ON MAGNETICS, **33** (5), (1997), 3784-3786]
Mizushima, T; Makino, A; Inoue, A
- 253) Applications of nanocrystalline soft magnetic Fe-M-B (M=Zr, Nb) alloys "NANOPERM(R)". [IEEE TRANSACTIONS ON MAGNETICS, **33** (5), (1997), 3793-3798]
Makino, A; Hatanai, T; Naitoh, Y; Bitoh, T; Inoue, A; Masumoto, T
- 254) Structural and magnetic properties of nanocrystalline Fe-rich Fe-Nb-Nd-B sintered magnet produced by consolidating amorphous powders. [IEEE TRANSACTIONS ON MAGNETICS, **33** (5), (1997), 3817-3819]
Kojima, A; Makino, A; Inoue, A
- 255) Application of nanocrystalline Fe (or Co-Fe)-Hf-O magnetic films with high electrical resistivity to micro DC-DC converters. [IEEE TRANSACTIONS ON MAGNETICS, **33** (5), (1997), 3310-3312]
Sato, T; Komai, E; Yamasawa, K; Hatanai, T; Makino, A
- 256) Thermal and magnetic properties of Fe₅₆Co₇Ni₇Zr_{10-x}Nb_xB₂₀ amorphous alloys with wide supercooled liquid range. [MATERIALS TRANSACTIONS JIM, **38** (7), (1997), 577-582]
Inoue, A; Koshiba, H; Zhang, T; Makino, A

- 257) Average and local structures of amorphous Pd₇₅Si₂₅ alloy analyzed by modern electron diffraction techniques. [MATERIALS SCIENCE AND ENGINEERING A-STRUCTURAL MATERIALS PROPERTIES MICROSTRUCTURE AND PROCESSING, **226**, (1997), 274-279]
Hirotzu, Y; Matsushita, M; Ohkubo, T; Makino, A; Oikawa, T
- 258) Microstructure of nanocrystalline Fe-Nb-Pr-B alloys produced by crystallization of amorphous phase. [MATERIALS SCIENCE AND ENGINEERING A-STRUCTURAL MATERIALS PROPERTIES MICROSTRUCTURE AND PROCESSING, **226**, (1997), 520-525]
Kojima, A; Ogiwara, F; Makino, A; Inoue, A; Masumoto, T
- 259) Nanocrystalline soft magnetic Fe-M-B (M=Zr, Hf, Nb) alloys and their applications. [MATERIALS SCIENCE AND ENGINEERING A-STRUCTURAL MATERIALS PROPERTIES MICROSTRUCTURE AND PROCESSING, **226**, (1997), 594-602]
Makino, A; Hatanai, T; Inoue, A; Masumoto, T
- 260) Improvement of hard magnetic properties of Fe₉₀Nd₇B₃ alloys by two-stage crystallization treatment. [MATERIALS SCIENCE AND ENGINEERING A-STRUCTURAL MATERIALS PROPERTIES MICROSTRUCTURE AND PROCESSING, **226**, (1997), 636-640]
Takeuchi, A; Inoue, A; Makino, A
- 261) Structure and magnetic properties of Fe-based glassy alloys. [MATERIALS SCIENCE AND ENGINEERING A-STRUCTURAL MATERIALS PROPERTIES MICROSTRUCTURE AND PROCESSING, **226**, (1997), 721-725]
Mizushima, T; Makino, A; Inoue, A
- 262) High resistive nanocrystalline Fe-M-O (M=Hf, Zr, rare-earth metals) soft magnetic films for high-frequency applications. [JOURNAL OF APPLIED PHYSICS, **81** (8), (1997), 3747-3752]
Hayakawa, Y; Makino, A; Fujimori, H; Inoue, A
- 263) Soft magnetic properties of Fe based amorphous thick sheets with large glass forming ability. [JOURNAL OF APPLIED PHYSICS, **81** (8), (1997), 4029-4031]
Inoue, A; Makino, A; Mizushima, T
- 264) The relationship between the crystallization process and the soft magnetic properties of nanocrystalline Fe-M-B-Cu (M=Zr, Nb) alloy. [JOURNAL OF APPLIED PHYSICS, **81** (8), (1997), 4634-4636]
Bitoh, T; Makino, A; Hatanai, T; Inoue, A; Masumoto, T
- 265) Electric and magnetic properties of Ta-doped polycrystalline Mn-Zn ferrite. [JOURNAL DE PHYSIQUE IV, **7** (C1), (1997), 121-122]
Yamamoto, Y; Makino, A; Nikaidou, T
- 266) Low loss of fine grained Mn-Zn ferrite. [JOURNAL DE PHYSIQUE IV, **7** (C1), (1997), 123-124]
Yamamoto, Y; Makino, A; Nikaidou, T
- 267) High frequency characteristics of nanocrystalline Co-Fe-Hf-O soft magnetic films. [JOURNAL DE PHYSIQUE IV, **7** (C1), (1997), 495-496]
Hayakawa, Y; Ohminato, K; Hasegawa, N; Makino, A
- 268) Preparation of thick amorphous alloy sheets in multicomponent Fe-based systems and their thermal and magnetic properties. [SCIENCE REPORTS OF THE RESEARCH INSTITUTES TOHOKU UNIVERSITY SERIES A-PHYSICS CHEMISTRY AND METALLURGY, **43** (2), (1997), 115-121]
Inoue, A; Mizushima, T; Makino, A
- 269) Effect of Fe content on the glass-forming ability, thermal stability of supercooled liquid and magnetic properties of Fe_{93-x}Al₅Ga₂(P_{0.55}C_{0.25}B_{0.2})(x) amorphous alloys. [SCIENCE REPORTS OF THE RESEARCH INSTITUTES TOHOKU UNIVERSITY SERIES A-PHYSICS CHEMISTRY AND METALLURGY, **43** (2), (1997), 123-128]
Mizushima, T; Makino, A; Inoue, A

- 270) Development of common mode choke coil made of new nanocrystalline sort magnetic alloy "NANOPERM(R)". [SCIENCE REPORTS OF THE RESEARCH INSTITUTES TOHOKU UNIVERSITY SERIES A-PHYSICS CHEMISTRY AND METALLURGY, **43** (2), (1997), 161-165]
 Naitoh, Y; Bitoh, T; Hatanai, T; Makino, A; Inoue, A; Masumoto, T
- 271) Nanocrystalline Fe-M-B-Cu (M=Zr,Nb) alloys with improved soft magnetic properties. [JOURNAL OF APPLIED PHYSICS, **81** (6), (1997), 2736-2739]
 Makino, A; Bitoh, T; Inoue, A; Masumoto, T
- 272) Improvement of soft magnetic properties of nanocrystalline Fe-M-B (M=Zr and Nb) alloys and their applications. [NANOSTRUCTURED MATERIALS, **9** (1月8日), (1997), 403-412]
 Inoue, A; Makino, A
- 273) Improved soft magnetic properties of nanocrystalline Fe-M-B-Cu (M=Zr, Nb) alloys with high saturation magnetic flux density and zero-magnetostriction. [MATERIALS SCIENCE FORUM, **235**, (1997), 723-728]
 Makino, A; Inoue, A; Hatanai, T; Bitoh, T
- 274) Structure analysis of amorphous Pd75Si25 alloy by electron diffraction and high-resolution electron microscopy. [MATERIALS SCIENCE AND ENGINEERING A-STRUCTURAL MATERIALS PROPERTIES MICROSTRUCTURE AND PROCESSING, **217**, (1996), 392-396]
 Matsushita, M; Hirotsu, Y; Ohkubo, T; Oikawa, T; Makino, A
- 275) Soft magnetic properties of bulk nanocrystalline Fe-(Nb,Zr,Hf)-B alloys produced by extruding amorphous powders. [JOURNAL OF MAGNETISM AND MAGNETIC MATERIALS, **162** (1), (1996), 95-102]
 Kojima, A; Horikiri, H; Kawamura, Y; Makino, A; Inoue, A; Masumoto, T
- 276) Spin-valves with antiferromagnetic alpha-Fe2O3 layers. [IEEE TRANSACTIONS ON MAGNETICS, **32** (5), (1996), 4618-4620]
 Hasegawa, N; Makino, A; Koike, F; Ikarashi, K
- 277) Soft magnetic properties of bulk Fe-based amorphous alloys prepared by copper mold casting. [IEEE TRANSACTIONS ON MAGNETICS, **32** (5), (1996), 4866-4871]
 Inoue, A; Takeuchi, A; Zhang, T; Murakami, A; Makino, A
- 278) Magnetic domain structure of nanocrystalline Fe-M-B (M=Zr, Nb) alloys revealed by Lorentz electron microscopy. [JOURNAL OF MAGNETISM AND MAGNETIC MATERIALS, **160**, (1996), 249-250]
 Hasegawa, N; Makino, A; Inoue, A; Masumoto, T
- 279) Microstructure and magnetoresistance of Fe-Hf-O films with high electrical resistivity. [JOURNAL OF MAGNETISM AND MAGNETIC MATERIALS, **154** (2), (1996), 175-182]
 Hayakawa, Y; Hasegawa, N; Makino, A; Mitani, S; Fujimori, H
- 280) Hard and soft magnetic properties of nanocrystalline containing intergranular amorphous phase. [JOURNAL OF APPLIED PHYSICS, **79** (8), (1996), 4836-4836]
 Inoue, A; Kojima, A; Takeuchi, A; Masumoto, T; Makino, A
- 281) Nanocrystalline Fe-M-B-Cu (M=Zr,Nb) alloys with improved soft magnetic properties. [JOURNAL OF APPLIED PHYSICS, **79** (8), (1996), 5472-5472]
 Makino, A; Bitoh, T; Inoue, A; Masumoto, T
- 282) Nanocrystalline structural evolution In Fe90Zr7B3 soft magnetic material. [ACTA MATERIALIA, **44** (4), (1996), 1497-1510]
 Zhang, Y; Hono, K; Inoue, A; Makino, A; Sakurai, T
- 283) Magnetic domain structure correlated with the microstructure of nanocrystalline Fe-M-B (M=Zr,Nb) alloys. [SCIENCE REPORTS OF THE RESEARCH INSTITUTES TOHOKU UNIVERSITY SERIES A-PHYSICS CHEMISTRY AND METALLURGY, **42** (1), (1996), 107-113]
 Makino, A; Hatanai, T; Yamamoto, Y; Hasegawa, N; Inoue, A; Masumoto, T

- 284) Soft magnetic properties of nanocrystalline Fe-M-(B and/or O) (M=group IV A, V A elements) alloy films. [SCIENCE REPORTS OF THE RESEARCH INSTITUTES TOHOKU UNIVERSITY SERIES A-PHYSICS CHEMISTRY AND METALLURGY, **42** (1), (1996), 115-119]
Hayakawa, Y; Makino, A; Inoue, A; Masumoto, T
- 285) High permeability and low core losses of nanocrystalline Fe-Nb-Zr-B-Cu alloys. [SCIENCE REPORTS OF THE RESEARCH INSTITUTES TOHOKU UNIVERSITY SERIES A-PHYSICS CHEMISTRY AND METALLURGY, **42** (1), (1996), 121-125]
Makino, A; Hatanai, T; Yoshida, S; Hasegawa, N; Inoue, A; Masumoto, T
- 286) Soft magnetic properties of bulk nanocrystalline Fe-(Zr,Hf)-B alloys produced by extruding amorphous powders. [SCIENCE REPORTS OF THE RESEARCH INSTITUTES TOHOKU UNIVERSITY SERIES A-PHYSICS CHEMISTRY AND METALLURGY, **42** (1), (1996), 127-132]
Kojima, A; Horikiri, H; Kawamura, Y; Makino, A; Inoue, A; Masumoto, T
- 287) Soft and hard magnetic properties of nanocrystalline Fe-M-B (M=Zr,Nd) base alloys containing intergranular amorphous phase. [SCIENCE REPORTS OF THE RESEARCH INSTITUTES TOHOKU UNIVERSITY SERIES A-PHYSICS CHEMISTRY AND METALLURGY, **42** (1), (1996), 143-156]
Inoue, A; Takeuchi, A; Makino, A; Masumoto, T
- 288) Microstructure and soft magnetic properties of nanocrystalline Fe-Zr-B-Al, Fe-Zr-B-Si and Fe-Zr-B-Al-Si alloys with zero magnetostriction. [MATERIALS TRANSACTIONS JIM, **37** (1), (1996), 78-88]
Inoue, A; Miyauchi, Y; Makino, A; Masumoto, T
- 289) Soft-magnetic properties of nanocrystalline Fe-Zr-B-Ni bulk alloy produced by warm extrusion. [JAPANESE JOURNAL OF APPLIED PHYSICS PART 2-LETTERS, **35** (1A), (1996), L19-L22]
Kojima, A; Makino, A; Kawamura, Y; Inoue, A; Masumoto, T
- 290) HARD MAGNETIC-PROPERTIES OF FE-ND-B ALLOYS CONTAINING INTERGRANULAR AMORPHOUS PHASE. [IEEE TRANSACTIONS ON MAGNETICS, **31** (6), (1995), 3626-3628]
INOUE, A; TAKEUCHI, A; MAKINO, A; MASUMOTO, T
- 291) SOFT-MAGNETIC PROPERTIES AND MICROSTRUCTURE OF NANOCRYSTALLINE FE-HF-N SPUTTERED FILMS. [IEEE TRANSACTIONS ON MAGNETICS, **31** (6), (1995), 3874-3876]
MAKINO, A; HAYAKAWA, Y
- 292) NANOCRYSTALLINE SOFT-MAGNETIC FE-M-B (M=ZR, HF, NB) ALLOYS PRODUCED BY CRYSTALLIZATION OF AMORPHOUS PHASE (OVERVIEW). [MATERIALS TRANSACTIONS JIM, **36** (7), (1995), 924-938]
MAKINO, A; INOUE, A; MASUMOTO, T
- 293) SOFT-MAGNETIC PROPERTIES OF NANOCRYSTALLINE BCC FE-(NB, ZR)-B BULK ALLOYS CONSOLIDATED BY WARM EXTRUSION. [MATERIALS TRANSACTIONS JIM, **36** (7), (1995), 945-951]
KOJIMA, A; HORIKIRI, H; MAKINO, A; KAWAMURA, Y; INOUE, A; MASUMOTO, T
- 294) CRYSTALLIZATION PROCESS OF AMORPHOUS FE-TA-C ALLOY-FILMS AND THERMAL-STABILITY OF THE RESULTANT SOFT-MAGNETIC NANOCRYSTALLINE STATE. [MATERIALS TRANSACTIONS JIM, **36** (7), (1995), 952-961]
HASEGAWA, N; MAKINO, A; KATAOKA, N; FUJIMORI, H; TSAI, AP; INOUE, A; MASUMOTO, T
- 295) HARD MAGNETIC-PROPERTIES OF NANOCRYSTALLINE FE-RICH FE-ND-B ALLOYS PREPARED BY PARTIAL CRYSTALLIZATION OF AMORPHOUS PHASE. [MATERIALS TRANSACTIONS JIM, **36** (7), (1995), 962-971]
INOUE, A; TAKEUCHI, A; MAKINO, A; MASUMOTO, T
- 296) NANOCRYSTALLINE MIXED STRUCTURE PREPARED BY CRYSTALLIZATION OF CU-AG-LA AMORPHOUS-ALLOYS. [MATERIALS TRANSACTIONS JIM, **36** (6), (1995), 697-704]
INOUE, A; PARK, J; MAKINO, A; MASUMOTO, T

- 297) Soft magnetic properties of nanocrystalline Fe-M-b(M=Zr, Hf, Nb) alloys with high magnetization. [NANOSTRUCTURED MATERIALS, **6** (5月8日), (1995), 985-988]
Makino, A; Inoue, A; Masumoto, T
- 298) Soft magnetic properties of Fe-M-O (M=Hf, Zr, Y, Ce) films with high electrical resistivity. [NANOSTRUCTURED MATERIALS, **6** (5月8日), (1995), 989-992]
Hayakawa, Y; Makino, A
- 299) HARD MAGNETIC-PROPERTIES OF NANOCRYSTALLINE FE-ND-B ALLOYS CONTAINING ALPHA-Fe AND INTERGRANULAR AMORPHOUS PHASE. [MATERIALS TRANSACTIONS JIM, **36** (5), (1995), 676-685]
INOUE, A; TAKEUCHI, A; MAKINO, A; MASUMOTO, T
- 300) Soft-magnetic properties of Cu-free, Fe-based nanocrystalline alloys. [MATERIALS SCIENCE FORUM, **179**, (1995), 497-505]
INOUE, A., MAKINO, A., MASUMOTO, T
- 301) MICROSTRUCTURE AND MAGNETIC-PROPERTIES OF NANOCRYSTALLINE BCC FE-NB-B SOFT-MAGNETIC ALLOYS. [IEEE TRANSACTIONS ON MAGNETICS, **30** (6), (1994), 4848-4850]
MAKINO, A; YOSHIDA, S
- 302) HIGH-RESOLUTION ELECTRON-MICROSCOPY STUDY OF MICROSTRUCTURAL CHANGES IN MAGNETIC FE-NB-B FILMS IN THE COURSE OF ANNEALING. [MATERIALS SCIENCE AND ENGINEERING A-STRUCTURAL MATERIALS PROPERTIES MICROSTRUCTURE AND PROCESSING, **179**, (1994), 487-490]
NAKAMURA M, HIROTSU Y, ANAZAWA K, MAKINO A, INOUE A, MASUMOTO T
- 303) SPUTTERED FE-HF-O FILMS WITH HIGH ELECTRICAL-RESISTIVITY AND GOOD SOFT-MAGNETIC PROPERTIES. [MATERIALS SCIENCE AND ENGINEERING A-STRUCTURAL MATERIALS PROPERTIES MICROSTRUCTURE AND PROCESSING, **182**, (1994), 1020-1024]
MAKINO, A; HAYAKAWA, Y
- 304) MAGNETIC-PROPERTIES AND CORE LOSSES OF NANOCRYSTALLINE FE-M-B (M-EQUIVALENT-TO-ZR, HF OR NB) ALLOYS. [MATERIALS SCIENCE AND ENGINEERING A-STRUCTURAL MATERIALS PROPERTIES MICROSTRUCTURE AND PROCESSING, **179**, (1994), 127-131]
MAKINO, A; SUZUKI, K; INOUE, A; MASUMOTO, T
- 305) MICROSTRUCTURE OF NANOCRYSTALLINE BCC FE-M-B (M-EQUIVALENT-TO-NB, HF) SOFT-MAGNETIC ALLOYS. [MATERIALS SCIENCE AND ENGINEERING A-STRUCTURAL MATERIALS PROPERTIES MICROSTRUCTURE AND PROCESSING, **179**, (1994), 495-500]
MAKINO, A; YAMAMOTO, Y; HIROTSU, Y; INOUE, A; MASUMOTO, T
- 306) THE ROLE OF BORON IN NANOCRYSTALLINE FE-ZR-B SOFT-MAGNETIC ALLOYS. [MATERIALS SCIENCE AND ENGINEERING A-STRUCTURAL MATERIALS PROPERTIES MICROSTRUCTURE AND PROCESSING, **179**, (1994), 501-505]
SUZUKI, K; MAKINO, A; TSAI, AP; INOUE, A; MASUMOTO, T
- 307) PRODUCTION OF NANOCRYSTALLINE BCC FE-NB-B BULK ALLOYS BY WARM EXTRUSION AND THEIR MAGNETIC-PROPERTIES. [MATERIALS SCIENCE AND ENGINEERING A-STRUCTURAL MATERIALS PROPERTIES MICROSTRUCTURE AND PROCESSING, **179**, (1994), 511-515]
KOJIMA, A; HORIKIRI, H; KAWAMURA, Y; MAKINO, A; INOUE, A; MASUMOTO, T
- 308) MAGNETIC-PROPERTIES AND MICROSTRUCTURE OF NANOCRYSTALLINE BCC FE-M-B (M=ZR, HF, NB) ALLOYS. [JOURNAL OF MAGNETISM AND MAGNETIC MATERIALS, **133** (1月3日), (1994), 329-333]
MAKINO, A; SUZUKI, K; INOUE, A; HIROTSU, Y; MASUMOTO, T
- 309) CORE LOSSES AND MAGNETIC-PROPERTIES OF MN-ZN FERRITES WITH FINE-GRAIN SIZES. [JOURNAL OF MAGNETISM AND MAGNETIC MATERIALS, **133** (1-3), (1994), 500-503]

YAMAMOTO, Y; MAKINO, A

- 310) FORMATION OF NANOCRYSTALLINE STRUCTURES BY CRYSTALLIZATION OF AMORPHOUS FE-M-B (M=IVA TO VIA GROUP METAL) ALLOYS. [SCIENCE REPORTS OF THE RESEARCH INSTITUTES TOHOKU UNIVERSITY SERIES A-PHYSICS CHEMISTRY AND METALLURGY, **39** (2), (1994), 133-140]
SUZUKI, K; MAKINO, A; INOUE, A; MASUMOTO, T
- 311) SOFT-MAGNETIC PROPERTIES OF SPUTTERED BCC FE-NB-B FILMS WITH NANOSCALE GRAIN-SIZE. [JOURNAL OF THE JAPAN INSTITUTE OF METALS, **58** (1), (1994), 106-112]
MAKINO, A; ARANO, S; INOUE, A; MASUMOTO, T
- 312) STRUCTURE AND MAGNETIC-PROPERTIES OF FE-HF-O SPUTTERED FILMS WITH HIGH ELECTRICAL-RESISTIVITY. [JOURNAL OF THE JAPAN INSTITUTE OF METALS, **57** (11), (1993), 1301-1309]
MAKINO, A; HAYAKAWA, Y
- 313) LOW CORE LOSSES OF NANOCRYSTALLINE FE-M-B (M=ZR, HF, OR NB) ALLOYS. [JOURNAL OF APPLIED PHYSICS, **74** (5), (1993), 3316-3322]
SUZUKI K, MAKINO A, INOUE A, MASUMOTO T
- 314) SOFT-MAGNETIC PROPERTIES OF FE-HF-B TERNARY ALLOYS WITH NANOSCALE BCC STRUCTURE. [JOURNAL OF THE JAPAN INSTITUTE OF METALS, **57** (8), (1993), 964-971]
SUZUKI, K; MAKINO, A; INOUE, A; MASUMOTO, T
- 315) SOFT MAGNETIC-PROPERTIES OF BCC FE-ZR-B SPUTTERED FILMS WITH NANOSCALE GRAIN-SIZE. [MATERIALS TRANSACTIONS JIM, **33** (1), (1992), 80-86]
MAKINO, A; SUZUKI, K; INOUE, A; MASUMOTO, T
- 316) SOFT MAGNETIC-PROPERTIES OF SINGLE CRYSTALLINE MN-ZN FERRITES CONTAINING ER₂O₃. [MATERIALS TRANSACTIONS JIM, **32** (12), (1991), 1177-1179]
MIZUSHIMA, T; MAKINO, A; KANEKO, F; KOBAYASHI, S
- 317) Soft Magnetic Properties of Nanocrystalline bcc Fe-Zr-B and Fe-M-B-Cu (M = Transition Metal) Alloys with High Saturation Magnetization. [J. Appl. Phys., **70** (10), (1991), 6232-6237]
K. Suzuki, A. Makino, A. Inoue and T. Masumoto
- 318) CHANGES IN MICROSTRUCTURE AND SOFT MAGNETIC-PROPERTIES OF AN FE₈₆ZR₇B₆CU₁ AMORPHOUS ALLOY UPON CRYSTALLIZATION. [MATERIALS TRANSACTIONS JIM, **32** (10), (1991), 961-968]
SUZUKI, K; KIKUCHI, M; MAKINO, A; INOUE, A; MASUMOTO, T
- 319) SOFT MAGNETIC-PROPERTIES OF BCC FE-M-B-CU (M = TI, NB OR TA) ALLOYS WITH NANOSCALE GRAIN-SIZE. [JAPANESE JOURNAL OF APPLIED PHYSICS PART 2-LETTERS, **30** (10A), (1991), L1729-L1732]
SUZUKI, K; MAKINO, A; INOUE, A; MASUMOTO, T
- 320) LOW CORE LOSS OF A BCC FE₈₆ZR₇B₆CU₁ ALLOY WITH NANOSCALE GRAIN-SIZE. [MATERIALS TRANSACTIONS JIM, **32** (6), (1991), 551-556]
MAKINO, A; SUZUKI, K; INOUE, A; MASUMOTO, T
- 321) HIGH SATURATION MAGNETIZATION AND SOFT MAGNETIC-PROPERTIES OF BCC FE-ZR-B AND FE-ZR-B-M (M = TRANSITION-METAL) ALLOYS WITH NANOSCALE GRAIN-SIZE. [MATERIALS TRANSACTIONS JIM, **32** (1), (1991), 93-102]
SUZUKI, K; MAKINO, A; KATAOKA, N; INOUE, A; MASUMOTO, T
- 322) COMPOSITIONAL EFFECT ON SOFT MAGNETIC-PROPERTIES OF CO-FE-SI-B AMORPHOUS-ALLOYS WITH ZERO MAGNETOSTRICTION. [MATERIALS TRANSACTIONS JIM, **31** (10), (1990), 884-890]

MAKINO, A; INOUE, A; MASUMOTO, T

- 323) COMPOSITIONAL EFFECT ON THE CRYSTALLIZATION BEHAVIOR OF CO-FE-SI-B AMORPHOUS-ALLOYS WITH ZERO MAGNETOSTRICTION. [MATERIALS TRANSACTIONS JIM, **31** (10), (1990), 891-897]

MAKINO, A; INOUE, A; MASUMOTO, T

- 324) 2-STAGE EMBRITTLEMENT OF CO-FE-SI-B AMORPHOUS-ALLOYS WITH ZERO MAGNETOSTRICTION. [JOURNAL OF MATERIALS SCIENCE LETTERS, **9** (9), (1990), 1112-1114]

MAKINO, A; INOUE, A; MASUMOTO, T

- 325) HIGH SATURATION MAGNETIZATION AND SOFT MAGNETIC-PROPERTIES OF BCC FE-ZR-B ALLOYS WITH ULTRAFINE GRAIN-STRUCTURE. [MATERIALS TRANSACTIONS JIM, **31** (8), (1990), 743-746]

SUZUKI, K; KATAOKA, N; INOUE, A; MAKINO, A; MASUMOTO, T

- 326) A GRAIN-BOUNDARY ETCHING METHOD FOR THE ANALYSIS OF INTERGRANULAR P-SEGREGATION IN IRON-BASED ALLOYS. [METALLURGICAL TRANSACTIONS A-PHYSICAL METALLURGY AND MATERIALS SCIENCE, **15** (8), (1984), 1563-1570]

OGURA, T; MAKINO, A; MASUMOTO, T

- 327) HIGH-FREQUENCY PROPERTIES IN A PARTICLE-DISPERSED AMORPHOUS CO_{70.5}FE_{4.5}SI₁₀B₁₅ COMPOSITE WITH ZERO MAGNETOSTRICTION. [JOURNAL OF NON-CRYSTALLINE SOLIDS, **61-2** (JAN), (1984), 1335-1340]

KIMURA H, MASUMOTO T, MAKINO A, SASAKI T

- 328) 低合金 CrMo 鋼および二 , 三の鉄合金への粒界腐食法の適用. [日本金属学会誌, **45** (11), (1981), 1180-1186]

小倉次夫 牧野彰宏 増本 健

- 329) リンの粒界偏析量分析法としての粒界腐食法の検討. [日本金属学会誌, **45** (10), (1981), 1093-1101]

小倉次夫 牧野彰宏 増本 健

- 330) COMPARISON OF AUGER-ELECTRON SPECTROSCOPY AND ETCHING METHOD FOR ANALYSIS OF GRAIN-BOUNDARY SEGREGATION OF PHOSPHORUS. [SCRIPTA METALLURGICA, **14** (8), (1980), 887-889]

OGURA T, MAKINO A, MASUMOTO T