RESEARCH ACTIVITIES and ACHIEVEMENTS 2023/2024

from April 2023 to March 2024

Yamasaki & Nishimoto Laboratory
Department of Materials Science and Engineering
Magnesium Research Center, Kumamoto University

IF-indexed Journal Papers　欧文学術誌

10. Contributions of multimodal microstructure in the deformation behavior of extruded Mg alloys containing LPSO phase, K. Hagihara, T. Mayama, M. Yamasaki, S. Harjo, T. Tokunaga, K. Yamamoto, M. Sugita, K. Aoyama, W. Gong, S. Nishimoto, International Journal of Plasticity, 173 (2024) Art. No. 103865. https://doi.org/10.1016/j.ijplas.2023.103865, Issued on February 2024.

9. Formation process, microstructure, and mechanical properties of an ultrafine dual-phase alloy formed through phase transition of 18R-type long-period stacking ordered in Mg85Zn6Y9 under high pressure, M. Matsushita, Y. Kawabata, Y. Nakata, S. Tanaka, K. Masuda, D. Yamauchi, T. Shinmei, Y. Higo, M. Yamasaki, Y. Kawamura, S. Iikubo, Journal of Alloys and Compounds, 970 (2024) Art. No. 172457. https://doi.org/10.1016/j.jallcom.2023.172457, Issued on 5 January 2024.

8. Effect of self-doping of Be into Gd2O3 oxide film on incombustibility of Mg-Zn-Gd alloy, S. Inoue, R. Ohmoto, M. Yamasaki, Y. Kawamura, H. Takahashi, Corrosion Science, 225 (2023) Art. No. 111611. https://doi.org/10.1016/j.corsci.2023.111611.119029, Issued on December 2023.

7. Strengthening of αMg and long-period stacking ordered phases in a Mg-Zn-Y alloy by hot-extrusion with low extrusion ratio, S. Harjo, W. Gong, K. Aizawa, T. Kawasaki, M. Yamasaki, Acta Materialia, 255 (2023) Art. No. 119029. https://doi.org/10.1016/j.actamat.2023.119029, Issued on 15 August 2023.

6. Nanoclusters in stacking faults in Mg-Y-Zn alloys examined by small-angle X-ray scattering and extended X-ray absorption fine structure analysis, H. Okuda, K. Kintsu, S. Kurokawa, M. Tabuchi, H. Nitani, H. Kimiduka, S. Inoue, M. Yamasaki, Y. Kawamura, Acta Materialia, 253 (2023) Art. No. 118963. https://doi.org/10.1016/j.actamat.2023.118963, Issued on 1 July 2023.

5. The microstructure and anisotropic deformation behavior of rapidly solidified ribbon consolidated Mg-Zn-X (X = Y, Gd, Nd) alloys, D. Drozdenko, K. Fekete, P. Dobroň, G. Németh, J. Veselý, S. Nishimoto, M. Yamasaki, Y. Kawamura, Journal of Alloys and Compounds, 944 (2023) Art. No. 169175. https://doi.org/10.1016/j.jallcom.2023.169175, Issued on 25 May 2023.

4. Relationship between Cluster-Arranged Nanoplate Formation and Mechanical Properties of Dilute Mg-Y-Zn Alloys Prepared by Combination of Low-Cooling-Rate Solidification and Extrusion Techniques, S. Ishizaki, M. Yamasaki, K. Hagihara, S. Nishimoto, T. Nakamura, Y. Kawamura, Materials Transactions, 64 (2023) 756-765. https://doi.org/10.2320/matertrans.MT-MD2022015, Issued on April 2023.

3. Effect of Extrusion Ratio in Hot-Extrusion on Kink Deformation during Compressive Deformation in an αMg/LPSO Dual-Phase Magnesium Alloy Monitored by In Situ Neutron Diffraction, S. Harjo, W. Gong, K. Aizawa, T. Kawasaki, M. Yamasaki, T. Mayama, Y. Kawamura, Materials Transactions, 64 (2023) 766-773. https://doi.org/10.2320/matertrans.MT-MD2022004, Issued on April 2023.

2. Unified Understanding of Strengthening Mechanisms Acting in Mg/LPSO Two-Phase Extruded Alloys with

Varying LPSO Phase Volume Fraction, K. Hagihara, T. Tokunaga, K. Yamamoto, M. Yamasaki, T. Mayama, T. Shioyama, Y. Kawamura, T. Nakano, Materials Transactions, 64 (2023) 720-729.
https://doi.org/10.2320/matertrans.MT-MD2022002, Issued on April 2023.

1. The yield point phenomenon in ultrafine-grained dilute Mg-Zn-Y alloys, D. Drozdenko, K. Fekete, P. Dobron, M. Knapek, K. Mathis, P. Minarik, M. Yamasaki, Y. Kawamura, Materials Letters, 330 (2023) Art. No.133315.
https://doi.org/10.1016/j.matlet.2022.133315, Issued on 1 January 2023.

Journal Paper Publications 和文学術誌

1. Cu-Ni-Co-Si 合金圧延材の曲げ変形時のせん断帯形成挙動, 迫 仁郁, 山崎倫昭, 眞山 剛, 伊東剛史, 兵藤 宏, 銅と銅合金, 62 (2023) 42-46.
https://doi.org/ https://doi.org/10.34562/jic.62.1_42, Issued on 1 August 2023.

Awards 受賞

4. 物質材料工学教育プログラム長賞, 堀口皓匠, 国立大学法人熊本大学大学院自然科学教育部材料・応用化学専攻物質材料工学教育プログラム, 2024年3月25日.
3. 物質材料工学教育プログラム奨学賞, 樋口竜太朗, 国立大学法人熊本大学工学部材料・応用化学科物質材料工学教育プログラム, 2024年3月25日.
2. 奨学賞, 石嶺伝秦, 日本金属学会・日本鉄鋼協会, 2024年3月25日.
1. 日本金属学会第42回優秀ポスター賞, "不均一組織を有するMg-Zn-Y系合金押出材の構成領域の力学特性解明", 吉田那優, 西本宗矢, 郭光植, 峯洋二, 山崎倫昭, 日本金属学会2024年第174回春期講演大会, 東京理科大学葛飾キャンパス, 2024年3月12-15日.