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## 三、High-entropy alloys 高熵合金

GPa-level pressure-induced enhanced corrosion resistance in TiZrTaNbSn biomedical high-entropy alloy
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Effects of process parameters and annealing on microstructure and properties of CoCrFeMnNi high-entropy alloy coating prepared by plasma cladding
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Effect of Mo on microstructure, mechanical and corrosion properties of $FeCrNiMnMo_x$ high-entropy alloys
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Effect of $TiO_2$ nano-ceramic particles on microstructure and mechanical properties of $Al_{0.4}CoCrFe_2Ni_2$ high-entropy alloy
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Composition formula of Al-TMs high-entropy alloys derived by cluster-plus-glue-atoms model and its experimental verification
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## 四、Aluminium alloys 铝合金

Ultra-large aluminum shape casting: Opportunities and challenges

超大型铝件铸造：机遇与挑战（Vol. 21 No. 5, 2024）

Qi-gui Wang, Andy Wang, Jason Coryell (通用全球技术中心)

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合金化和热处理对铸造铝锂合金微观组织和力学性能的影响：综述（Vol. 21 No. 5, 2024）

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局部压力补缩挤压铸造成形 35 kg 大型铝合金飞轮壳构件的组织与性能（Vol. 21 No. 5, 2024）

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Combined effects of ultrasonic vibration and FeCoNiCrCu coating on interfacial microstructure and mechanical properties of Al/Mg bimetal by compound casting

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Microstructural characterization, tribological and corrosion behavior of AA7075-TiC composites

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Numerical simulation of melt flow and temperature field during DC casting 2024 aluminium alloy under different casting conditions

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Effects of cooling rate on microstructure and microhardness of directionally solidified Galvalume alloy

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Effect of Sc on $Al_3Fe$ phase and mechanical properties of as-cast AA5052 aluminum alloy

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Effect of Mn content on microstructure and properties of $AlCrCuFeMn_x$ high-entropy alloy

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To improve robustness of mechanical properties of semi-solid cast A356 alloy using taguchi design method

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Compression properties of cost-efficient porous expanded clay reinforced AA7075 syntactic foams fabricated by industrial-oriented die casting technology

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Synergistic effect of Zr and Mo on precipitation and high-temperature properties of Al-Si-Cu-Mg alloys

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AP1000核电站冷却水泵叶轮的铸造工艺设计与实践（Vol. 17 No. 2, 2020）
Ping Zhao, Zhong-li Liu, Gui-quan Wang, et al（烟台大学）
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Arron Rimmer（英国ADI Treatments Limited）
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振动频率对消失模铸造灰铁初生相和性能的影响（Vol. 17 No. 1, 2020）
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## 八、Copper alloys 铜合金

Thermal and mechanical behavior of casting copper alloy wheel during wheel and belt continuous casting process

轮带式连铸过程中铜合金结晶轮的热力行为研究（Vol. 21 No. 1, 2024）

Kun Gao and Yan Peng（燕山大学）

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Effect of high magnetic field on solidification microstructure evolution of a Cu-Fe immiscible alloy

强磁场对难混溶 Cu-Fe 合金凝固组织演变的影响（Vol. 19 No. 4, 2022）

Yu-jie Yan, Chen Wei, Yi-xuan He, Chao Li, Ping-xiang Zhang, Jin-shan Li, and Jun Wang（西北工业大学）

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Microstructural characteristics and mechanical properties of bronze/steel bimetallic laminated composite prepared by protective atmosphere casting process

保护气氛下铸造青铜/钢双金属层压复合材料的组织特征和力学性能（Vol. 18 No. 5, 2021）

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Corrosion behavior of Cu/Al casting-rolled clad plates in different alkaline solution

铸轧铜/铝复合板在不同碱性溶液中的腐蚀行为（Vol. 18 No. 5, 2021）

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Effect of harmonic magnetic field and pulse magnetic field on microstructure of high purity Cu during electromagnetic direct chill casting

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Effects of laser shock processing, solid solution and aging, and cryogenic treatments on microstructure and thermal fatigue performance of $ZCuAl_{10}Fe_3Mn_2$ alloy

激光冲击处理、固溶时效和深冷处理对$ZCuAl_{10}Fe_3Mn_2$合金组织和热疲劳性能的影响（Vol. 18 No. 2, 2021）

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Pore structure analysis of directionally solidified porous copper

定向凝固多孔铜气孔结构分析（Vol. 17 No. 5, 2020）

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Cu-Ti-Si合金中$Ti_5Si_3$的微观组织演变（Vol. 17 No. 4, 2020）

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A study of metal/die interfacial heat transfer behavior of vacuum die cast pure copper

真空压铸纯铜金属/模具界面热传递行为的研究（Vol. 17 No. 3, 2020）

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Microstructure and thermal expansion of copper-based amorphous alloys during structural relaxation

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## 九、Numerical simulation 数值模拟

Numerical simulation on directional solidification and heat treatment processes of turbine blades
涡轮叶片定向凝固及其热处理过程数值模拟（Vol. 21 No. 5, 2024）
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Wei-li Peng, Jian-hua Zhao, Cheng Gu, and Ya-jun Wang (重庆大学)
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Effect of droplet characteristics on liquid-phase distribution in spray zone of internal mixing air-mist nozzle

液滴特征对内混式气水雾化喷嘴喷淋区液相分布的影响（Vol. 21 No. 2, 2024）

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基于三维双频超声场数值模拟的超声波空间交互研究（Vol. 21 No. 1, 2024）

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Three dimensional phase-field simulation for non-isothermal binary alloy solidification: Comparison with LKT theory

二元合金非等温凝固三维相场模拟：与 LKT 理论的对比（Vol. 20 No. 6, 2023）

Jun Wu, Ting-yi Liu, Gui-chao Hu, Rong Ma, Xiao-peng Zhang, Yu-fei Li, and Chao Luo（中国工程物理研究院材料研究所）

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Simulation of inclined dendrites under natural convection by KKS phase field model based on CUDA

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Distribution pattern of acoustic and streaming field during multi-source ultrasonic melt treatment process

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Melting and floating processes of inorganic materials in molten steel: Visualization physical simulation and mathematical modelling

无机材料在钢液中的熔化和上浮过程：可视化物理模拟和数值模拟（Vol. 20 No. 2, 2023）

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Image processing based three-dimensional model reconstruction for cross-platform numerical simulation

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Numerical simulation on fluid flow behavior during 3-dimensional dendrite growth with random preference angle

随机择优角度三维枝晶生长过程中流体流动行为的数值模拟（Vol. 19 No. 5, 2022）

**DOI**: Qi Wang, Ke-jie Feng, Shi-jie Zhang, Chen-yu Li, and Ri Li（河北工业大学）

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Quantitative multi-phase-field modeling of non-isothermal solidification in hexagonal multicomponent alloys

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Phase-field modeling of dendritic growth of magnesium alloys with a parallel-adaptive mesh refinement algorithm

基于并行自适应网格细化算法的镁合金枝晶生长相场模拟（Vol. 18 No. 6, 2021）

Bing-hui Tian, Meng-wu Wu, Ang Zhang, et al（武汉理工大学）

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Three-dimensional multi-phase-field simulation of eutectoid alloy based on OpenCL parallel

基于OpenCL并行的共析合金三维多相场模拟（Vol. 18 No. 3, 2021）

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Yong-shuai Feng, Dun-ming Liao, Tao Chen（华中科技大学）
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多相相变中多晶粒包晶转变的多相场模拟（Vol. 17 No. 5, 2020）
Li Feng, Jun-he Zhong, Chang-sheng Zhu, et al（兰州理工大学）
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Fe-C 二元合金液-固-共析多相转变的相场模拟（Vol. 17 No. 4, 2020）
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Three dimensional modeling method of MIMICS adjacent mask spherical open cell aluminum foam-polyurethane composites based on DICOM data
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Effect of ladle outlet geometry on internal porosity in gravity casting automotive brackets: An experimental investigation
基于实验的浇包出铁口几何尺寸对重力浇注汽车支架内部缩松的影响研究（Vol. 17 No. 1, 2020）
Jaehoon Choi, Hoyoung Hwang, and Shinill Kang（韩国Yonsei University）
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Numerical simulation and experimental validation on fabrication of nickel-based superalloy Kagome lattice sandwich structures
镍基高温合金戈薇晶格三明治结构的数值模拟和实验验证（Vol. 17 No. 1, 2020）
Yan-peng Wei, Bo Yu, Quan-zhan Yang, et al（沈阳铸造研究所有限公司）
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## 十、Others 其他

Intelligent casting: Empowering the future foundry industry

智能铸造——赋能未来铸造业（Vol. 21 No. 5, 2024）

Jin-wu Kang, Bao-lin Liu, Tao Jing, and Hou-fa Shen (清华大学)

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Research, application and development of inorganic binder for casting process

铸造用无机黏结剂的研究应用及发展（Vol. 21 No. 5, 2024）

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Growth process, defects, and dopants of bulk β-Ga2O3 semiconductor single crystals

β-Ga2O3 单晶生长工艺、缺陷及掺杂剂研究（Vol. 21 No. 5, 2024）

Yan-shen Wang, Ming-zhi Zhu, and Yuan Liu (清华大学)

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Microstructure and mechanical properties of Co-28Cr-6Mo-0.22C investment castings by current solution treatment

电流固溶处理对熔模铸造CoCrMo合金的影响（Vol. 21 No. 4, 2024）

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Exploring the effect of cooling rate on non-isothermal crystallization of copolymer polypropylene by fast scanning calorimetry

用快速扫描量热法探讨冷却速率对共聚聚丙烯非等温结晶的影响（Vol. 21 No. 4, 2024）

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I-DCGAN and TOPSIS-IFP: A simulation generation model for radiographic flaw detection images in light alloy castings and an algorithm for quality evaluation of generated images

I-DCGAN和TOPSIS-IFP：轻合金铸件射线探伤图像仿真生成模型与生成图像质量评估算法（Vol. 21 No. 3, 2024）

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Assessing efficacy of standard impregnation techniques on die-cast aluminum alloys using X-ray micro-CT

X射线微CT评估压铸铝合金标准浸渍工艺的有效性（Vol. 21 No. 3, 2024）

Ajith Bandara, Koichi Kan, Katanaga Yusuke, Natsuto Soga, Akifumi Koike, and Toru Aoki (Chuo Hatsumei Institute，日本)

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Microstructure evolution of $Ti_{48}Zr_{27}Cu_6Nb_5Be_{14}$ amorphous alloy after semi-solid isothermal treatment

半固态等温处理后$Ti_{48}Zr_{27}Cu_6Nb_5Be_{14}$非晶复合材料组织演变（Vol. 21 No. 3, 2024）

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A thermochemical model description of $CaO-SiO_2-Al_2O_3$ silicate system

$CaO-SiO_2-Al_2O_3$硅酸盐体系热力学计算模型（Vol. 20 No. 6, 2023）

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Reclamation of $CO_2$ sodium silicate used sands by steam leaching

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Analysis of inhomogeneity of solidified microstructure of continuous casting copper tubular billet based on factor analysis

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