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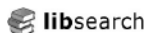
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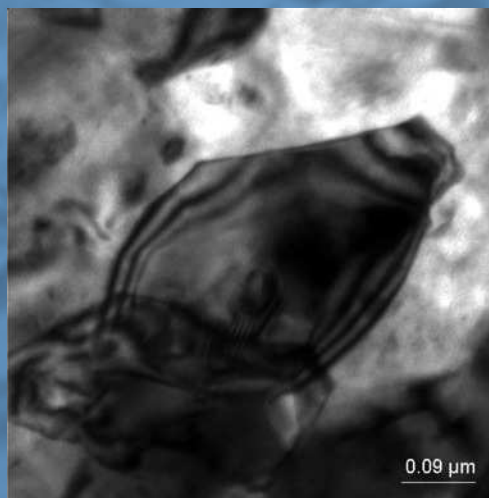
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Leszek A. Dobrzanski M Dr hc
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Dear Readers!

The next issue of Archives of Materials Science and Engineering is handed over to P.T. Readers. We publish in it as usual a few scientific papers. They are recommended to a special attention of P.T. Readers. As usual I encourage P.T. Authors to publish their works in successive issues of the journal, wishing the interesting reading of those published in the given issue.



Authors: B. Krupińska, Z. Rdzawski and K. Labisz in the paper entitled "Light and electron microscope investigations of cast Zn-Al alloys" on a page 29 present the influence of alloy modification on the crystallisation kinetics and microstructure of the cast zinc alloy. This research work presents also the investigation results of derivative thermoanalysis performed using the UMSA device. The material used for investigation was the ZnAl8Cu1 alloy. The UMSA (Universal Metallurgical Simulator and Analyser) device allows to determine the specific points of the solidifying alloy, including: Influence of the chemical concentrations of the modifiers, alloying additives, parameters of the melting process, influence of the cooling rate on the crystallization of phases and eutectics of the investigated alloys. Cooling rate influences the microstructure and properties of the investigated zinc cast alloys. For phase determination electron diffraction investigations were performed carried out on the transmission electron microscope. Investigations concerning the development of optimal chemical composition and production method of zinc-aluminium alloys with selected rare earth metals with improved properties compared to elements made of alloys with appliance of traditional methods, will contribute to a better understanding of the mechanisms influencing the improvement of functional properties of the new ones. A change of the crystallization kinetics allows to produce materials with improved properties, which are obtained by: microstructure refinement, reduction or elimination of segregation. The investigated material can find its use in the foundry industry; an improvement of component quality depends mainly on better control over the production parameters.