

EUROMAT 2019

SYMPOSIUM: B4

Title: Additive Manufacturing of High Tech Ceramics		
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Abstract		
<p>Scope:</p> <p>The use of free form fabrication methods may bring a considerable and urgently needed development in materials processing, by enabling a manufacturing, joining and shaping of hard and precise elements. The symposium is aimed at providing an information of innovative additives technologies used for metallic, ceramic and all types composites. The goal is to show fundamental and applicable research considering physicochemical processes taking place between laser beam and different types of materials and/or feedstock preparation ready for additive manufacturing. Thus, by proper processing the 2D or 3D shapes can be manufactured either in form of green bodies or sintered polycrystals. The symposium is expected to bring a knowhow useful for different worldwide groups working in the field of materials science and laser technologies.</p> <p>Description:</p> <p>Promising AM technologies for the preparation of porous and dense ceramic parts and sintered glasses are based on stereolithography-based shaping of green, not yet sintered parts and on the basis of Fused Deposition Modelling, but not limited to these processes, but as well related to techniques like Laminated Object Manufacturing LOM and 3-D-printing approaches. Direct shaping by Selective Laser Sintering and Selective Laser Melting, being even more challenging for the shaping of Ceramics without sintering is another important aspect of Additive Manufacturing. Finally top down approaches e.g. on the basis of Electro Discharge Machining EDM are another topic of this symposium.</p> <p>Targeted Topics:</p> <ul style="list-style-type: none">Stereolithography and 3-D-Lithography based TechnologiesLaminated Object Manufacturing LOMSelective Laser Sintering and Selective Laser Melting SLS and SLMLaser Machining of Ceramics and CompositesFused Deposition Modelling FDM3-D-Printing TechnologiesElectro Discharge Machining EDM		