

EUROMAT 2017/ Symposia Structure/Area B

Title: Advanced properties of SPD-processed metallic materials		
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Summary		
<p>Severe plastic deformation (SPD) methods allow achieving ultrafine-grained (UFG) or nanocrystalline (NC) microstructures in metallic materials with extraordinary mechanical properties. Thus, these materials are very promising for new light-weight construction concepts as they can be produced in larger quantities with either homogenous or locally tailored/ graded mechanical properties by microstructural design. This symposium focuses on the mechanical properties of metallic materials with UFG or NC microstructures processed by SPD methods. In this context, not only the properties of single component (monolithic) UFG/NC materials are in focus but also tailored /graded metallic materials and composites are of interest. Furthermore, emphasis is laid on advances in the understanding of the mechanical properties of UFG/ NC materials under static or cyclic loading conditions, the underlying deformation and damage mechanisms and the related microstructural stability under mechanical load including superplastic behaviour. Principal investigations on the deformation mechanisms in UFG/NC materials related to SPD-processing parameters are also welcome. This symposium is closely allied with Symposium C10 where thermomechanical processing, SPD methods and the obtained nanostructures are in focus.</p> <p><u>Invited speakers:</u></p> <ul style="list-style-type: none"> • Dr. Ilchat Sabirov, IMDEA Materials Institute, Madrid, Spain • Dr. Ing. Enrico Bruder, Technische Universität Darmstadt, Germany <p>Selected papers presented at this symposium will be published in a special issue of the Journal "Advanced Engineering Materials" (Wiley-VCH). Authors will be contacted after the conference for submission of full papers. The papers will be refereed using the journal standard reviewing procedures.</p>		