

MM 1 Invited talk Zehetbauer (SYSPD)

Time: Monday 09:30–10:00

Room: IFW A

Invited Talk

MM 1.1 Mon 09:30 IFW A

Fundamentals of Severe Plastic Deformation — ●MICHAEL ZEHETBAUER — Institut für Materialphysik, Universität Wien, Boltzmanngasse 5, A-1090 Wien

The lecture addresses the special features of Severe Plastic Deformation (SPD) which distinguishes SPD from other methods to produce nanostructured materials and from conventional plastic deformation. These features are intimately connected with the unique properties of SPD nanometals revealing high ductility and/or superplasticity, large fracture toughness, an increased reate of hydrogen ad- and desorption, and changes in phase existencies as compared to equilibrium phase diagrams. The lecture reports on several competing explanations which have been subject of a vital discussion going on at present, in order to elucidate the physical background of these features/properties being typical of SPD.