

Poster Session / 105**Testing and characterization of Solid-State Amplifiers for PoFEL Accelerator.**

Corresponding Author: piotr.bartoszek@ncbj.gov.pl

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Plastic Flow Instability in Austenitic Stainless Steels at a Wide Range of Temperatures: From Macroscopic Tests to Microstructural Analysis

Authors: Jakub Tabin¹; Adam Brodecki¹; Zbigniew Kowalewski¹; Jakub Kawalko²; Piotr Bala²; Kinga Nalepka³

¹ Institute of Fundamental Technological Research PAS

² AGH University of Krakow, Academic Centre for Materials and Nanotechnology, 30-059 Krakow, Poland

³ AGH University of Krakow, Faculty of Mechanical Engineering and Robotics 30-059 Krakow, Poland

Corresponding Authors: knalepka@agh.edu.pl, zkowalew@ippt.gov.pl, kubaka@agh.edu.pl, abrodecki@ippt.pan.pl, jtabin@ippt.pan.pl, piotr.bala@agh.edu.pl

Deformation-induced phase transformation stabilizes the macroscopic shear band propagation in the metastable austenitic stainless steels (304, 316L). At room temperature, this strain localization arises only in the metastable 304 ASS at the final stage of the tensile test. The front, where the strain drop reaches almost 10%, propagates continuously through the specimen. Temperature decrease to 4K diametrically changes the nature of the shear band. Its propagation is sequential and discontinuous and starts at the beginning of a tensile test. The formation of an individual shear band induces a rapid drop of stresses followed by their gradual growth in the elastic and plastic range, which proceeds in an adjacent area belonging to the next band. The phase transformation is concentrated at the boundary of the shear band, where two different deformation fields are in contact.

Superconductivity in Fusion Technology / 107**Analysis on the results of the Quench Experiment taking into account variable contact strands-jacket heat transfer coefficient**

Corresponding Author: monika.lewandowska@ifj.edu.pl

Cryogenics for Accelerators, Fusion Technology and High Field Magnets / 108**Simplified Model of Thermo-Fluid Processes in Forced Flow**

Corresponding Author: slawomir.pietrowicz@pwr.edu.pl

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