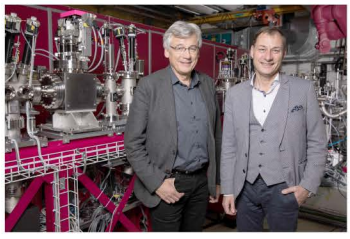
PAUL SCHERRER INSTITUT

PSI facilities newsletter

https://www.psi.ch/science/facility-newsletter

First Pilot Experiment at SwissFEL-Alvra: UV photo-induced charge transfer in OLED system



On the 17th of December 2017 SwissFEL saw its first pilot experiment in the Alvra experimental station of the SwissFEL ARAMIS beamline. A team of scientists from the University of Bremen, Krakow and PSI, led by Matthias Vogt (Univ. Bremen) and Chris Milne (PSI)in collaboration with J. Szlachetko, J. Czapla-Masztafiak, W. M. Kwiatek (Inst. of Nucl.Phys. PAN (Krakow), successfully did the first pilot experiment at SwissFEL-Alvra on UV photo-induced charge transfer in OLED system. With ever-increasing demands on low-cost, low-power display technology, significant resources have been invested in identifying OLED materials that are based on Earth-abundant materials while maintaining high internal quantum efficiencies. The recent pilot experiment performed at SwissFEL's Alvra experimental station aimed to use X-ray spectroscopy to investigate a promising OLED candidate based on copper and phosphorus.

Read more: https://www.psi.ch/swissfel/highlights

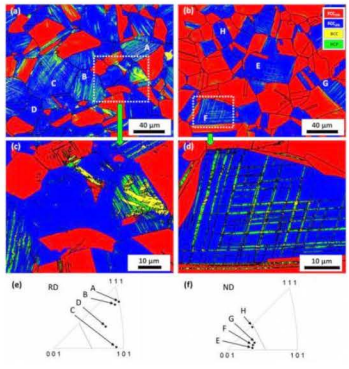
PSI spin-off GratXray wins Swiss Technology Award

A spin-off from PSI has received this year's Swiss Technology Award: The young company GratXray is developing a new method for early diagnosis of breast cancer. The prize was announced and awarded at yesterday's Swiss Innovation Forum.

Read more: https://www.psi.ch/media/psi-spin-off-gratxray-wins-swiss-technology-award-2017

Suppressed martensitic transformation under biaxial loading in low stacking fault energy metastable austenitic steels

E. Polatidis et.al., Scripta Materialia 147 (2018) 27; DOI: 10.1016/j.scriptamat.2017.12.026



In-situ neutron diffraction studies performed on metastable 201 stainless steel combined with EBSD measurements confirm that ε-martensite is a precursor for α'-martensite during uniaxial and equibiaxial deformation at the same loading rate. In both loading states, the grains that contain martensite belong to orientations for which the leading partial dislocations have higher Schmid factor than the trailing partial dislocations. The martensitic transformation is suppressed during equibiaxial loading as a consequence of the different textures formed during deformation.

Read more: https://www.psi.ch/lsc/scientific-highlights-and-news