Project 14 - Measurement and Modeling of Textural Anisotropy in Ti-6Al-4V

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Program Goal

Microstructural texture in forgings of Ti-6Al-4V can interfere with their inspection via ultrasonic techniques. Predicting texture will identify regions where texture can impair nondestructive inspection
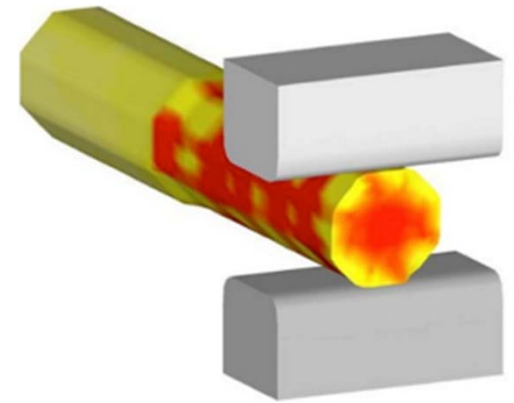
Approach

Utilize DEFORM software to model microstructure and texture development in Ti-6Al-4V alloys during forging

Verify modeling results with experimental data

Benefits

Generate constitutive law implementing microstructural effects on mechanical properties and design optimizations

Address/mitigate issues of ultrasonic inspection associated with texture in forged components

DEFORM-3D simulation of cogging

http://wildeanalysis.co.uk/fea/
software/deform/deform-3d-
suite/deform-cogging

Project Duration
Jan. 2015 to Dec. 2019