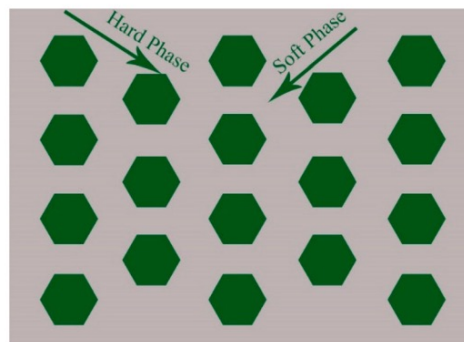
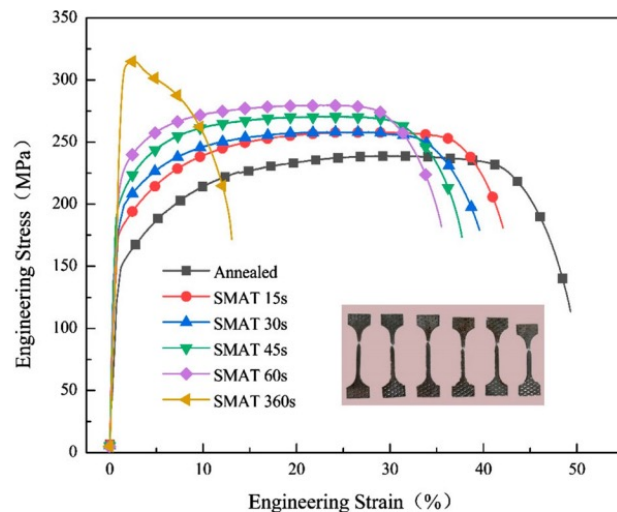


Heterogeneous structures made by severe plastic deformation

The design and manufacturing of heterostructured metallic materials can be used for the balanced improvement of strength and ductility by interior microstructure construction. Here we implement severe plastic deformation through ultrasonic shot peening to control the heterogeneity and thus modulate the mechanical response of metallic materials.

RESEARCH ACTIVITIES (in collaboration with Lorraine University in France):

1. Process design, surface treatment (including ultrasonic shot peening and nitriding) and experimental characterization of stainless steel samples mainly regarding tensile properties
2. Numerical models to identify the strengthening mechanisms and role of geometrical features



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