

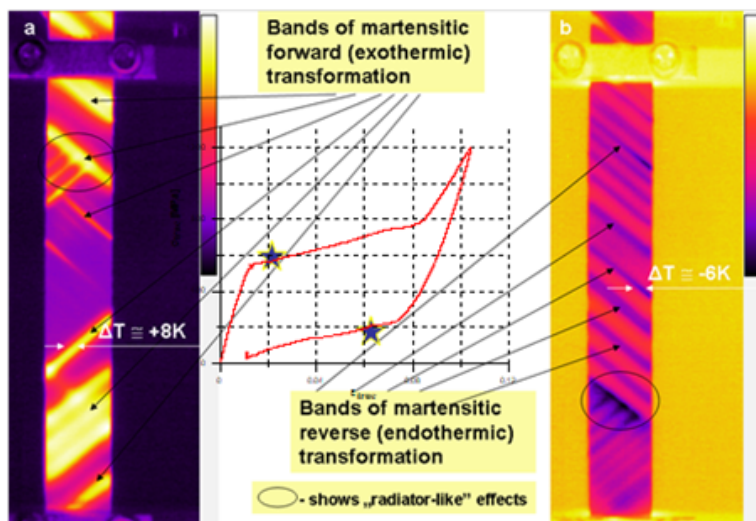
日時：2024年9月10日 火曜日 11:00-12:00, 場所：R2棟6F 大会議室

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題目：Investigation of Shape Memory Alloys, Polymers and Ti-Nb based Ni-free High Elastic Alloys named Gum Metals by Traditional and Innovative Techniques

The new multifunctional solid materials, e.g. NiTi Shape Memory Alloys, Shape Memory Polymers and Ti-Nb Ni-free high elastic alloys, named Gum Metals have been investigated using traditional and innovative experimental techniques. The samples of SMA produced by Furukawa, the SMP obtained by SMP Technol. Inc., Tokyo, Gum Metal samples provided by the Toyota Central Research & Development Labs, Japan; as well as Shape Memory Epoxy for biomedical applications 3D printed at the Madrid Technical University were subjected to loading on Instron Testing Machine. The fast and sensitive Infrared Camera Phoenix Flir Co. was used to collect infrared radiation from the materials sample's surface and to evaluate the temperature change during the deformation process. The mechanical data were elaborated using digital image correlation system DIC with its own algorithm. In some approaches acoustic emission technique (AE) is also used. The obtained effects of thermomechanical couplings applied in the designed system named ThermoCorr and related to the materials structure allowed us to analyze the new materials behavior in various conditions.



Infrared imaging demonstrating 2 directions of the localised stress-induced transformation [2]

References

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