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## Mechanics and microstructure of [100] oriented FeNiCoAlTi single crystals

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The super elastic response of  $\text{Fe}_{43.5}\text{Ni}_{28}\text{Co}_{17}\text{Al}_{11.5}\text{Ti}_{2.5}$  single crystal shape memory alloy with the [100] orientation aged at 600°C for 4 hours was investigated under both tension and compression. A fully recoverable super elastic strain was observed under both tension and compression within the temperature range of -80 to 0°C. The fully recoverable super elastic strain was achieved in tension however the recoverability of super elasticity deteriorates in compression. The tension-compression asymmetric response is likely caused by different numbers of activated martensite variants in tension and compression. Increasing

the aging times decrease the super elastic temperature window and increase the transformation temperature.

### Speaker Biography

Li Wei Tseng has completed his PhD at Texas A&M University, USA. He is the assistant professor of National Changhua University of Education, Taiwan. He has 7 publications, 2 paper in Acta Materialia and 5 paper in Scripta Materialia. His research interests are in shape memory alloys, metallurgy, solid mechanism.

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