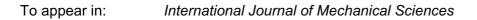
## Accepted Manuscript

A Numerical Study on Chain-Die Forming of the AHSS U-Channel and Contrast with Roll Forming

Yaguang Li, Yong Sun, Hua Xiao, Hyuk Jong Bong, Lei Shi, Shuhui Li, Dayong Li, Shichao Ding, R.H. Wagoner

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## Highlights

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- The performance of AHSS in chain-die forming is investigated by experiment and simulation.
- The hardening model to describe the Bauschinger effect of the AHSS is established and implemented into the finite element model of chain-die forming process.
- The evolutions of longitudinal strain and springback in the chain-die forming of the U-channel are investigated.
- A systematic comparison between chain-die forming and roll forming of the U-channel are performed in terms of deformation mechanism, transitional surface, strain development and springback, etc.

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