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Residual stress modelling in laser welding marine steel EH36 considering a thermodynamics-based solid phase transformation

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#### ACCEPTED MANUSCRIPT

### **Highlights**

- Phase fractions of laser welding EH36 was predicted based on phase transformation thermodynamics.
- Effect of phase transformation on strain and materials property was integrated into FEM.
- Peak residual stress zone was transferred from the FZ center to the HAZ outside.



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