Modeling of plastic deformation induced by thermo-mechanical stresses considering tool flank wear in high-speed machining Ti-6Al-4V

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Highlights

- Plastic deformation induced by thermo-mechanical stress is modelled by considering tool flank wear.
- The proposed model has been verified through cutting experiments of Ti-6Al-4V with the error interval of 11.2% to 15.4%.
- Controlling the tool flank wear states in high-speed machining can be a novel avenue for designing expected functional surface.