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Study of rolling contact fatigue behavior of a wind turbine gear based on damage-coupled elastic-plastic model

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Highlights

- A damage-coupled elastic-plastic contact fatigue model for a wind turbine gear is developed based on CDM and user subroutine.
- The contribution of elastic damage controlled by shear stress amplitude and plastic damage controlled by plastic deformation on the gear contact fatigue life under different load case are calculated
- The evolution of damage and the deteriorations of mechanical properties are recorded during the simulation process.

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