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Numerical study on wear evolution and mechanical behavior of steel wires based on semi-analytical method

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Highlights

- The wear and mechanical behaviors of steel wires are numerically solved.
- The local wear condition changes from sliding wear to mixed wear.
- The wear depth increments at different slip increments are quite different.
- Obvious local peaks of contact pressure occur at the edges of wear region.
- Local stress concentration happens at the contact interface between worn wires.

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