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Cyclic tangential loading of a power-law hardening elastic-plastic spherical contact in pre-sliding stage

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**Highlights**

- A finite element model for cyclic tangential loading in pre-sliding is developed.
- The finite element model is for the contact between a power-law hardening sphere and a rigid flat.
- The contact parameters in the cyclic tangential loading process are obtained.
- The effects of power-law hardening exponents on contact parameters are studied.

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