Skidding behavior of cylindrical roller bearings under time-variable load conditions

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Highlights

- A nonlinear dynamic model is proposed to predict the skidding behavior.
- Various effects are considered for roller bearings under time-variable load.
- Local skidding for each roller could still be found and vary periodically.
- Time-variable load lead to the frequency of time-varying slipping velocity change.
- The results are useful for design and monitoring of rotating machinery.