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Research in minimum undeformed chip thickness and size effect in micro end-milling of potassium dihydrogen phosphate crystal

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## Highlights

- A model of chip formation is developed to estimate the minimum undeformed chip thickness in micro-milling of KDP crystal.
- The difference of normalized minimum undeformed chip thickness between KDP crystal and metallic materials is analyzed.
- Severe size effect appears when feed per tooth is less than minimum undeformed chip thickness.
- The feed per tooth which is slightly larger than minimum undeformed chip thickness and smaller than the cutting edge radius is recommended in micro-milling of KDP crystal or other soft-brittle crystal.

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