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Activity of pyramidal I and II $\langle c+a \rangle$ slip in Mg alloys as revealed by texture development

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Highlights

- Texture evolution is analyzed to determine whether pyramidal I or pyramidal II slip activates.
- Micromechanics-based EPSC model is used to calculate reorientations in an Mg-4%Li alloy.
- Single-slip-mode model is developed to identify crystals favoring pyramidal I and II slip.
- Simulations and measurements indicate that pyramidal I dominates over pyramidal II slip.
- Rolling texture components that distinguish pyramidal I and II slip activity are identified.

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