

MECHANICAL ENGINEERING STUDENT SEMINAR

Wednesday, May 29, 2024, at 13:30, D. Dan and Betty Kahn Building, Room 217

Dry Wear Modeling for Spherical Contact

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This study examines wear mechanisms and frictional behavior of spherical contacts, essential for understanding how real surfaces respond to sliding interactions.

Employing a finite element model, these phenomena are examined by applying the Johnson-Cook criterion and fracture energy criterion to simulate crack initiation and propagation during contact. The model yields insights into wear particle formation during adhesive sliding wear, for different normal preloads and different spherical radius.

Moreover, the model is extended to fretting wear, analyzing the progression of wear behaviors under cyclic loading with varying amplitudes of tangential displacement.

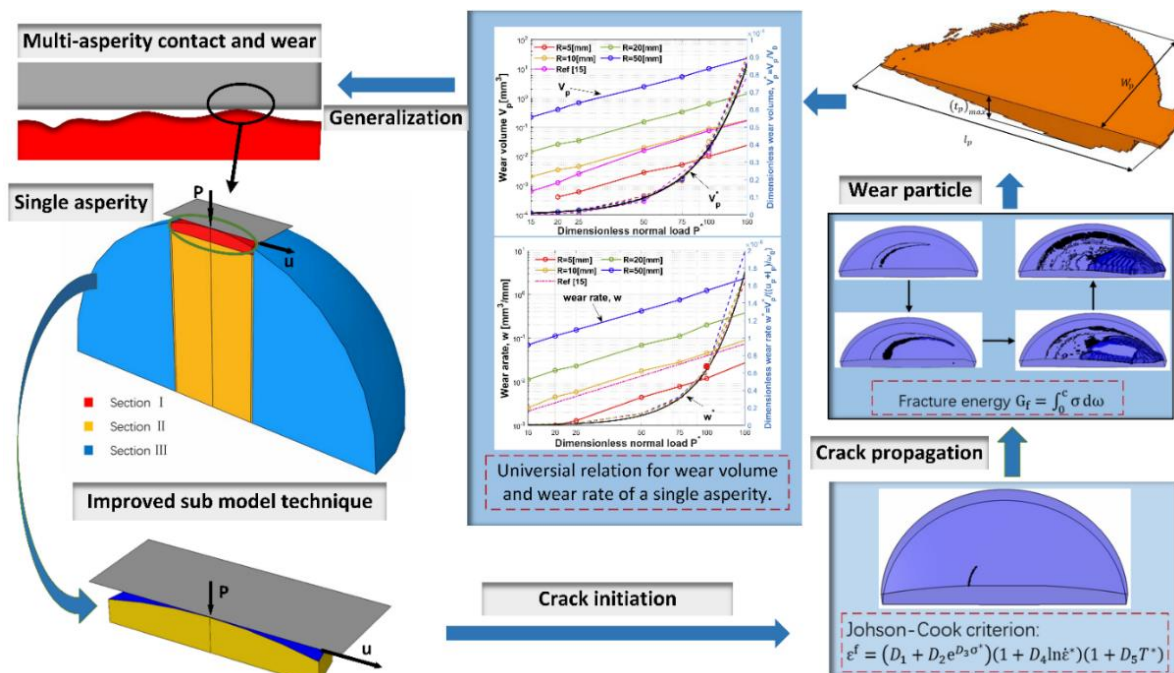


Illustration of wear modeling process

Note: the seminar will be given in English