KEYNOTE SPEAKERS

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Rolling Contact Fatigue of Dented Surfaces

In an ideal world, the surfaces in contact are smooth, the lubricant abundant and free from solid pollution, the materials in contact are either isotropic or crystalline, and free from defects, i.e. neither inclusions nor heterogeneities.

In real life, the surfaces in contact between moving parts are often lubricated, in order to reduce friction or wear of the parts in contact. One of the most difficult mechanisms to deal with is the passage of solid debris suspended in the lubricant, which, carried into the contact, can mark the surfaces.

This local indentation translates into plasticization around the indentation, an irreversible phenomenon that sometimes results in material detachment and, ultimately, component failure.

The problems and latest advances in this field will be presented. tensions. The presentation is completed by some thoughts on the near future of these models in lubrication.