

When Precise Numerical Predictions Come to the Rescue of Liquid Lubrication

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INTRODUCTION: Modelling lubricated contacts can be very challenging and long term research work are sometimes needed to understand some contact behaviours. However, precise predictions are often

possible through a smart modelling approach. Here the possibilities offered by a COMSOL Multiphysics® model are presented with the example of the slider bearing.

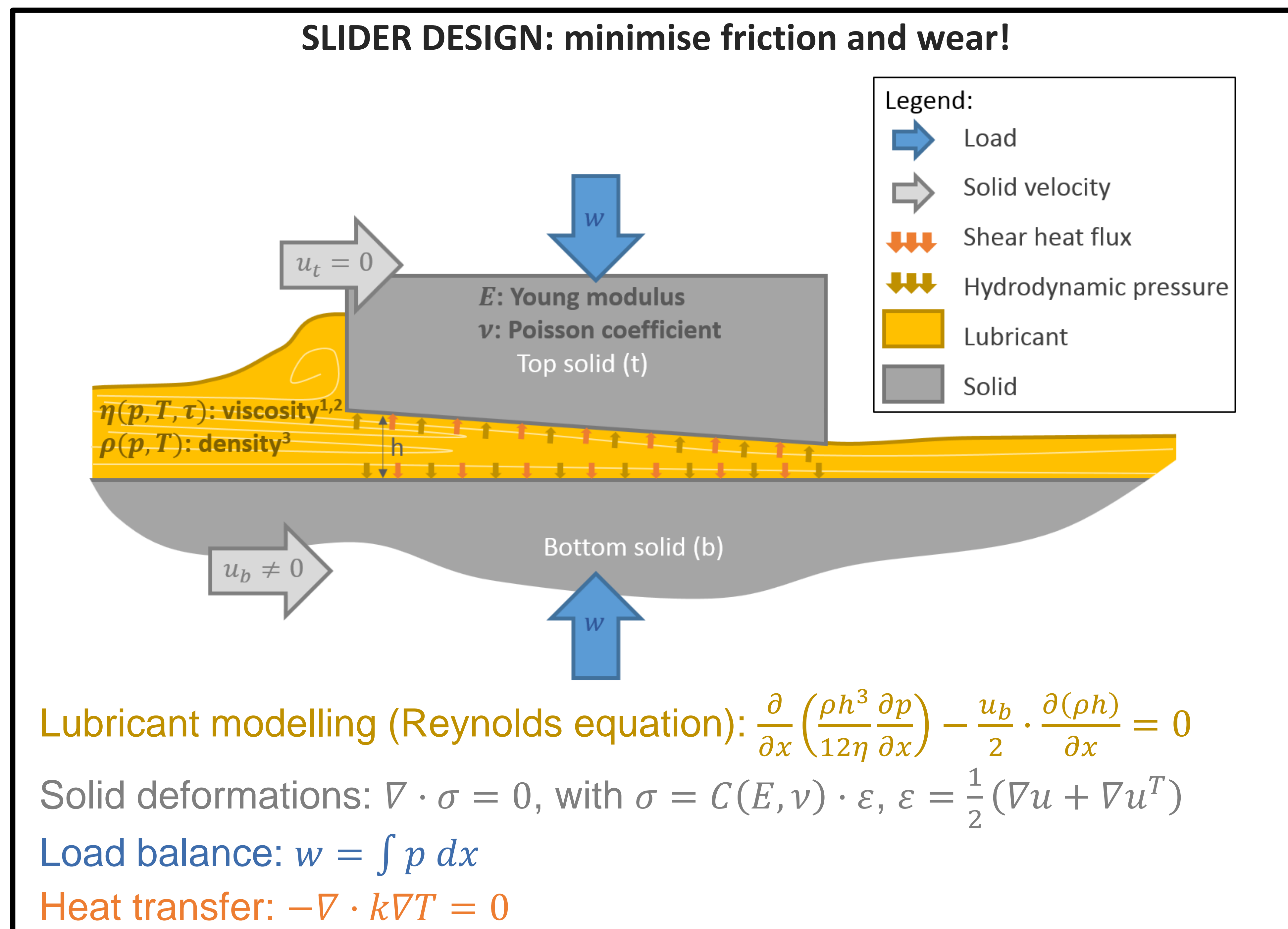


Figure 1. slider description and equation computed ⁴

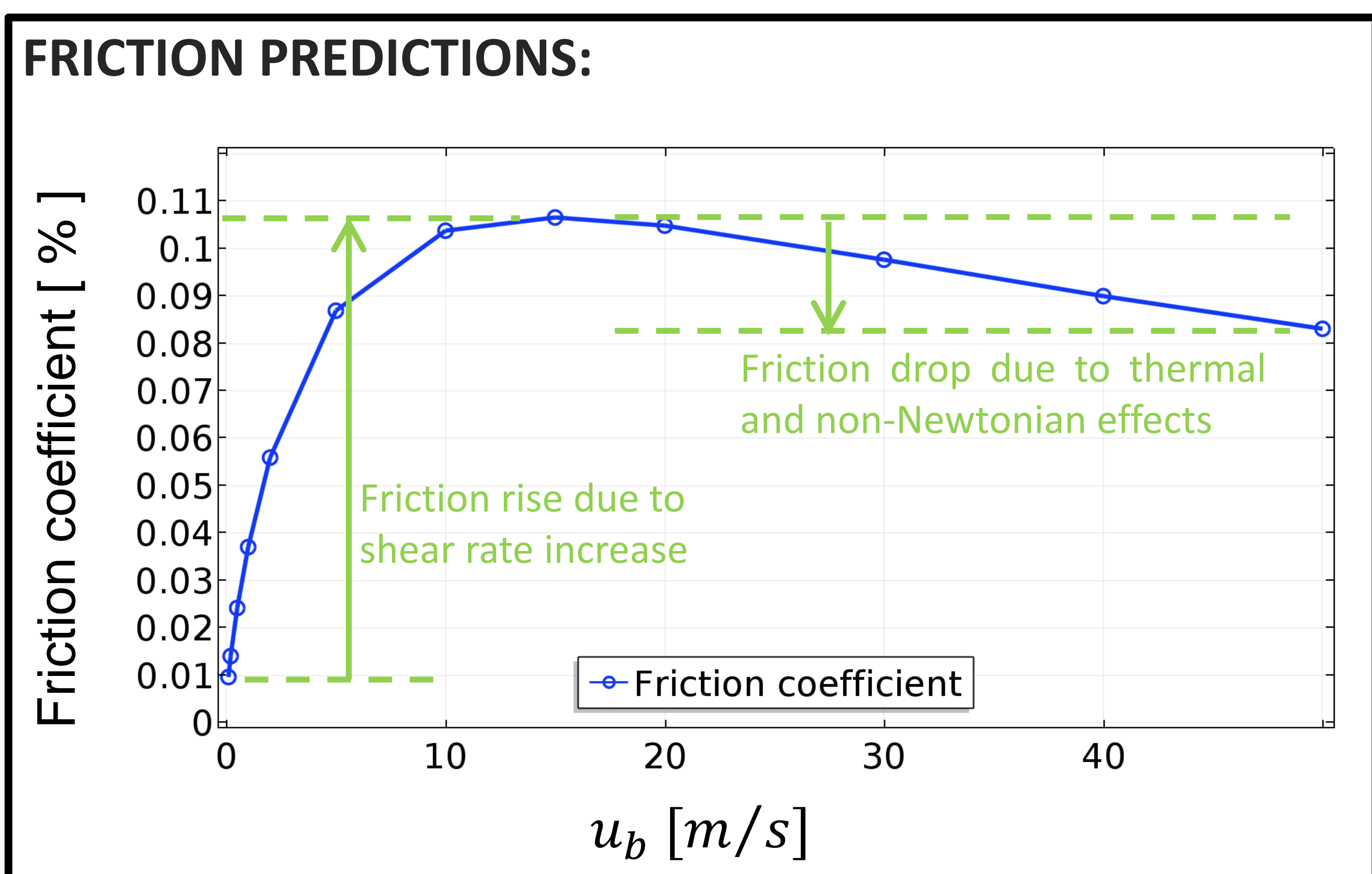


Figure 2. modelling friction precisely requires complex rheology models

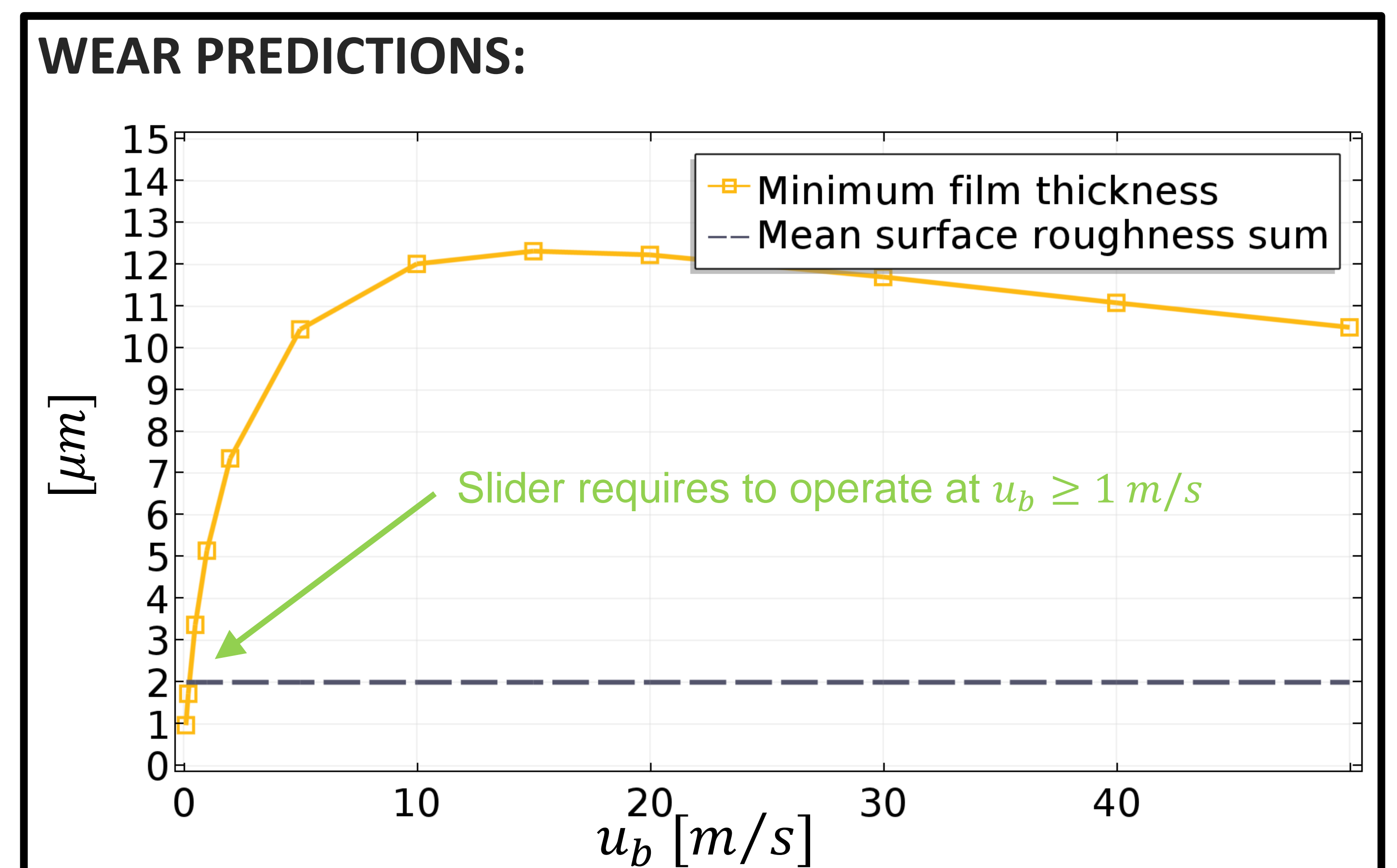


Figure 3. predicting wear generating operating conditions

CONCLUSIONS:

Precise tribological studies require high complexity models. However it is realistic nowadays to provide quantitative predictions to realistic industrial cases with these models. SIMTEC develops such models and makes them available through apps. A COMSOL Server™ with secured connexion grants access to SIMTEC's powerful models through a simple web browser!

REFERENCES:

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