

# Optimization in hydrodynamic lubrication

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Determining the hydrodynamic pressure and the resulting load carrying capacity for a given film geometry in thin film lubrication systems is a well developed field of research.

However, what is the film geometry that will produce the maximal load carrying capacity?

In this seminar some steps in answering this question will be discussed:

- A very fast optimization method to find this geometry will be presented.
- It will be shown that in order to find the optimum for multiple operating conditions, an accurate cavitation algorithm is required, and an efficient new cavitation algorithm will be presented.
- Some optimal results for multiple operating conditions will be discussed.