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FRANCE 2030
PROGRAMME DE RECHERCHE
NUMÉRIQUE POUR L'EXASCALE

Manufacturing constraints in shape optimization

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Existence issues in shape optimization

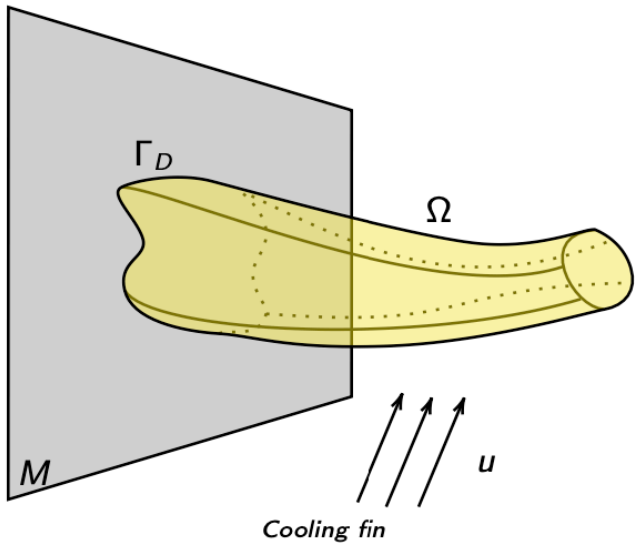
Need to impose extra regularity through manufacturing constraints

$$\begin{cases} -\Delta w = 0 & \text{in } \Omega, \\ w = 0 & \text{on } \Gamma_D, \\ \frac{\partial w}{\partial n} + h(w + T_0) = 0 & \text{on } \Gamma. \end{cases}$$

Volume constraint ? Surface constraint ?

Need to impose uniform lipschitz regularity

(<=> reach constraint)



Reach ?

Links between:
-> regularity of the sdf
-> regularity of the shape
-> uniform ball condition