

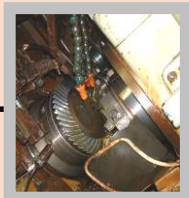
金属部品生産プロセスのデジタルツイン

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当研究室では金属部品製造プロセスで起きる諸現象のデジタル化(デジタルツイン)と、諸現象の交互作用の解明を進めています

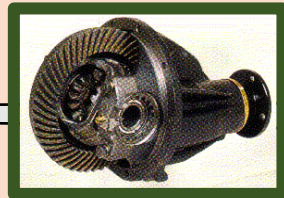
ギアでの例



Forging & Cutting



Heat Treatment



Finish Cutting, Assembly

Real Process

Digital Process

クランクシャフトでの例

Material

Forging

Heat Treatment

Cutting

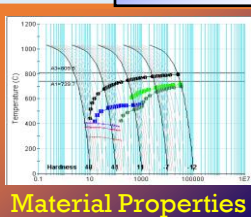
Induction Heating

Finish Cutting

Virtual Fatigue Test

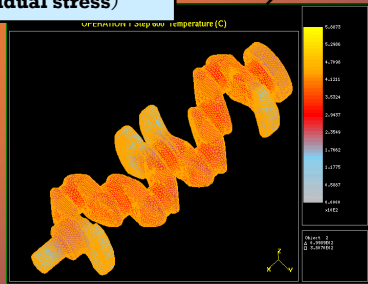
Assembly

Digital TWIN

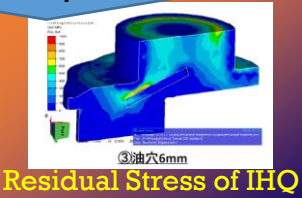


Material Properties

Heat treatment simulation (Structure, hardness, residual stress)

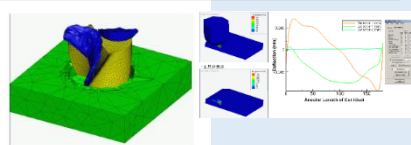


Heat treatment distortion analysis

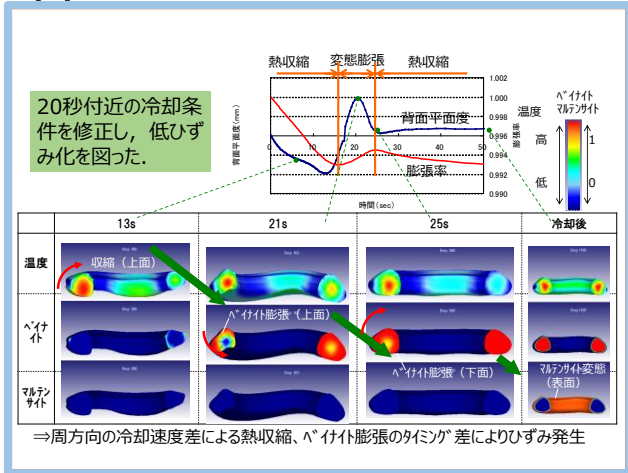


Residual Stress of IHQ

MachiningSimulation (shape · residual stress · temperature etc...)



<Application>



歯車部品の熱処理ひずみ低減事例

