Role of the microstructure on fatigue limit in the presence of defects (Al-based alloys, Inconel (718, 625, ... alloys))

Understanding of the frequency effect and the role of defects at very high temperature of nickel-based single crystals (SX)

Identification of damage mechanisms in AM alloys

Even in the presence of defects, the microstructure plays a significant role in the fatigue limit (cast Al, Inconel alloys, AlSi SLM)

In pure iron, the size of the critical defect which influences the fatigue limit is close to the grain size

By using the DSG criterion and a porosity growth model (casting simulation), it is possible to directly calculate the fatigue strength of a structure from the simulation of the process (Through Process Modelling chain)

Mapping of crack initiation mechanisms in Inconel 718 as a function of grain size, carbides and precipitation structure

Fatigue experience at 20 kHz and high temperature (from 700°C to 1200 ° C)

Fundamental crack initiation mechanisms around the pores according to the load ratio: analysis of the contributions of fatigue and creep

Fatigue criterion on single crystals integrating time, temperature and defect size

Process-induced surface recrystallization: analysis of the mechanisms and link with the coating deposition process of Ni-based SX alloys

Damage mechanism in a single crystal obtained by the additive route (EBM)