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## MICRO AND NANO-CHARACTERIZATION OF MATERIALS APPLIED TO ADVANCED MANUFACTURING PROCESSES

The advanced characterization of materials at the micro and nanoscale has an extremely important role in understanding the relationships between process parameters, microstructure and properties. In this presentation, some case studies will be presented, different advanced characterization techniques (SEM, TEM, FIB, nanoindentation and synchrotron radiation) to deeply understand the bonding mechanisms in laser-welded joints will be addressed. The materials of interest in this presentation will focus on Ti and Ni alloys with potential applications in the aerospace and biomedical industries.





