GIFMA
Manufacturing Engineering
and Advanced Metrology Group

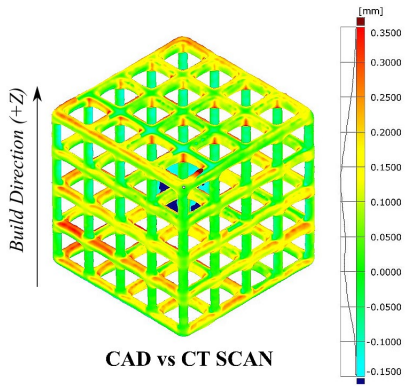
PhD felloship

Funding project:

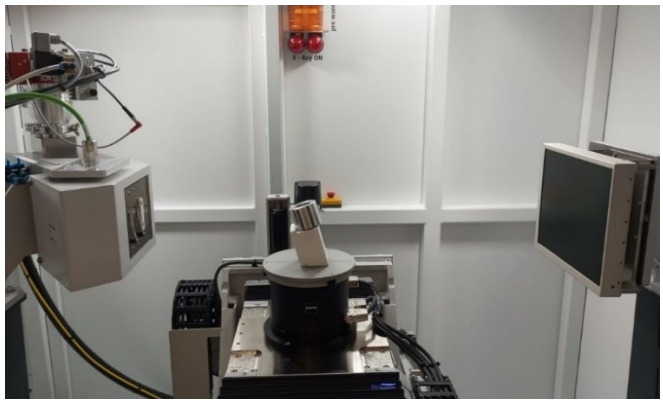
X-ray CT and Advanced Metrology for Additive Manufacturing of Complex components due to their geometry, structure and materials (CompleX-AM2) PID2024-157236OB-I00. *Generación de Conocimiento* call funded in the 2024 by the Spanish Ministry of Science, Innovation and Universities.

Research lines:

- Dimensional metrology of lattice structures based on Triply Periodic Minimal Surfaces (TPMS): this type of structure can nowadays be manufactured thanks to additive manufacturing (AM). However, ensuring their dimensional and geometric accuracy is a major challenge due to the complexity of their internal surfaces.
- X-ray computed tomography (X-CT): this is the most suitable technology for the non-destructive analysis of these complex structures, both in terms of their geometry and internal defects. Nevertheless, its effectiveness depends on a careful selection of the machine's operating parameters (voltage, current, exposure time).
- Machine learning: the aim is to develop an assistant for the X-CT machine configuration process (predictive model) that takes into account how the choice of tomography system configuration parameters affects the measurement outcome.



CAD vs CT SCAN



Host institution:

The candidate will pursue their doctoral research within the Manufacturing Engineering and Advanced Metrology Group (GIFMA) at the University of Zaragoza. GIFMA carries out internationally recognized, state-of-the-art research and maintains extensive international collaborations in the areas of coordinate dimensional metrology, precision engineering systems, manufacturing systems optimization, and the integration of digital technologies into manufacturing processes with Lean Manufacturing principles.

Requirements and contract conditions:

Further information on the call, including eligibility criteria and application procedures, is available at the following link on the Unizar website: Contratos Predoctorales FPI. (Application deadline: 13/02/2026).

Candidates must hold a Master's degree in Industrial Eng., Mechanical Eng., or a closely related discipline, and demonstrate a clear interest in the application of artificial intelligence to manufacturing metrology systems. The contracts will have a duration of four years (approximate gross annual salary of €25,456.10, 14 payments).

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