
Segregation assessment in the manufacturing process of metal powder cored-wire

Researchers:

- Elena Beatriz Martín Ortega. [Universidad de VIGO](#) [1] - [CITMaga](#) [2].

Language Undefined

Description:

Proyecto asignado a través de la Red Española de Supercomputación ([RES](#) [3]).

Cored wires, used as addition material in different steel and foundry industries, must contain specific concentrations of different metal powders with very different densities and particle sizes. Therefore, undesirable segregation occurs during the wire filling process, especially at the beginning of the production, making the first portion of the final manufactured cored wire unsuitable due to its high inhomogeneity.

This project proposes to use HPC numerical simulation to predict the segregation during the initial production stage of the cored wire using Discrete Element Models. First, the granular flow in simplified configurations will be studied numerically and experimentally to calibrate the material parameters involved in the model. Then, the simulation of the industrial initial filling process will be carried out and validated.

Source URL: <https://www.cenits.es/en/proyectos/segregation-assessment-manufacturing-process-metal-powder-cored-wire>

Links

[1] <https://www.uvigo.gal/> [2] <https://citmaga.gal/es/> [3] <https://www.res.es/>