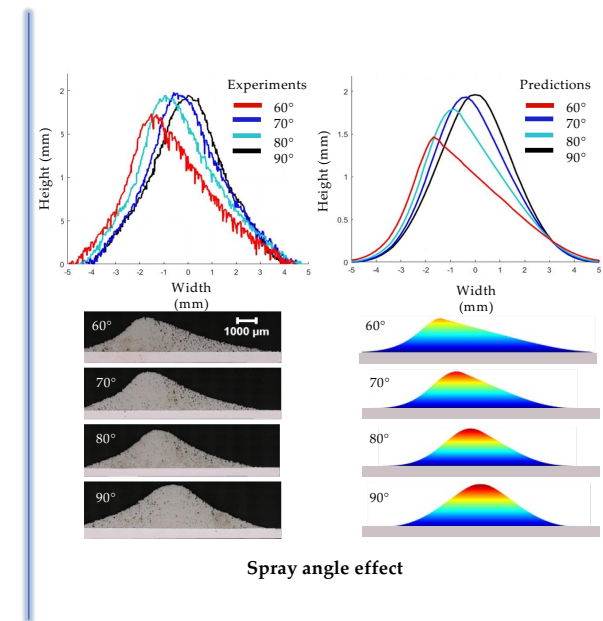
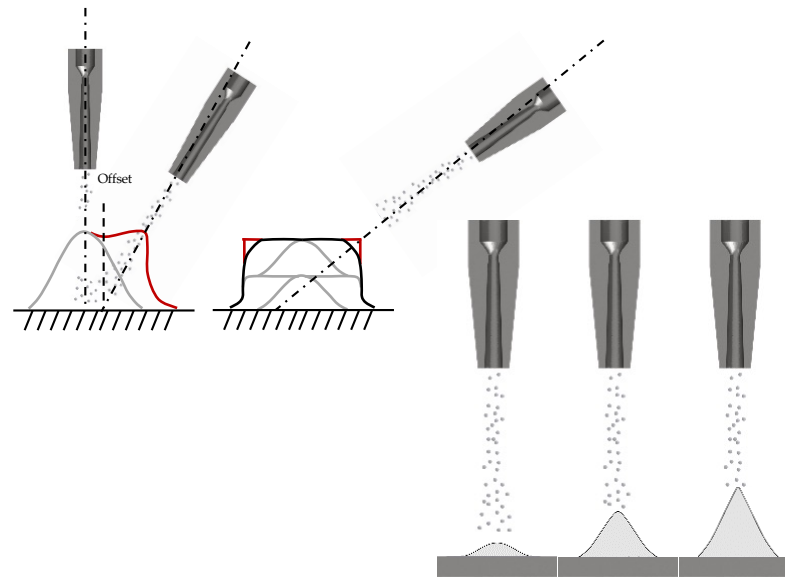


Shape Prediction and Scan Track Programming in Cold Spray

More recently cold spray is being introduced as an additive manufacturing method that supersonically accelerates microparticles to induce bonding via severe plastic deformation. However, the thriving of cold spray as a widespread additive manufacturing technology with high production rates is still limited by inadequate geometrical control of the deposit shape.

To take a further step towards gaining control on the deposit geometry, present study aims at the development of a 3D model able to simulate the cold spray deposit profile. The physical basis of the model is represented by a partial differential equation, which describes the deposit profile evolution as the number of passes grows.



Expected outcome:

- Scan strategy to get to a near net shape geometry
- Relating the shape prediction model to physical properties