



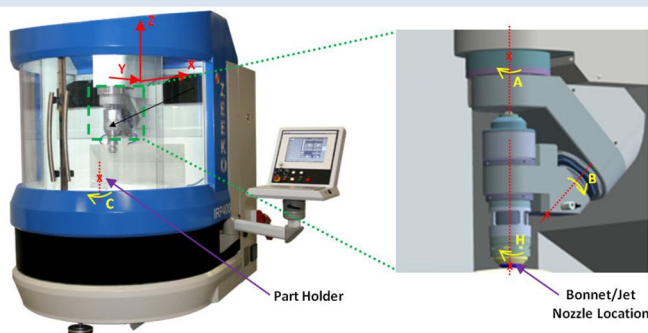
Newsletter

[ConforM-Jet initiative for founding the European Waterjet Association](#)

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From ConforM Jet Management

The second general meeting with all of the partners, after 6 months of the start of the project, was held at Tekniker on the May 4th-6th 2010. The meeting was a success and we wish to thank all the partners for participating and for their good work. A lot of research work has been done in 6 months and the progress made is substantial.



ConforM Jet News & Events

- *Exploitation Strategy Seminars, Windisch, November 9th 2010.*
- *ConforM-Jet General Meeting in Windisch, November 10 -11, 2010*
- *Meeting for founding the European Waterjet Association, November 12, Windisch*

Feature article

Energy Based Model

Within the project ConforM Jet a High Energy Fluid (HEF)-Jet is to be described by means of an Energy-based model. The work undertaken so far, and the modelling work in particular, focuses on entrainment abrasive water jets, i.e. jets where solid abrasive particles are fed to the water jet downstream of the nozzle. On the other side, there are arguments (like an increased erosion rate that can be achieved) to use slurries, i.e. water mixed with abrasive particles; the slurry is in practice fed upstream of the nozzle.

The question arises whether the modelling performed so far for entrainment systems could - easily or with an effort to be determined - be extended to systems using slurries as abrasives. The modelling concept developed so far, and taken as a basis for the ongoing work, describes the water jet as collection of water domains within a domain of air. The free surface describing the interface between the water domains and the surrounding air is described by means of a level-set function. Solid particles are inserted to the water jet described in this way. The particles are assumed to be rigid, i.e. their deformation is neglected, and their motion is governed by forces and torques exerted by the surrounding fluid on them.

Lagrangian particle tracking

If the particles are sufficiently small (as compared to length scales relevant for the air-water mixture, or the grid resolution required to resolve the air-water system, respectively), the forces and torques are modelled, based on assumptions on the surrounding flow field in the air-water-mixture.