

Powder experiments update

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(October 6, 2009)

Achieved a dense and coherent semi-cylindrical Jet:

estimated 42% \pm 5% v/v. I.E. \sim 8000 kg/m³. With a 20mm diameter nozzle and over a 30 cm long jet.

Little erosion on dense phase conveying components:

the glass components did not scratch yet

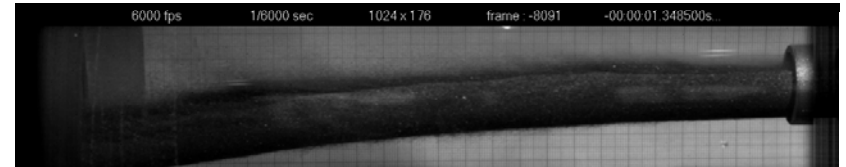
Moving components were removed from the proximity of the beam line

Consistent dune flow was achieved in a pipe:

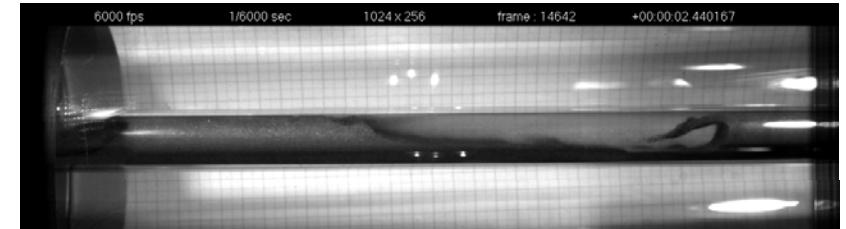
flow restarts even with a packed nozzle

Image analysis on the H.S. video of the jet is in progress

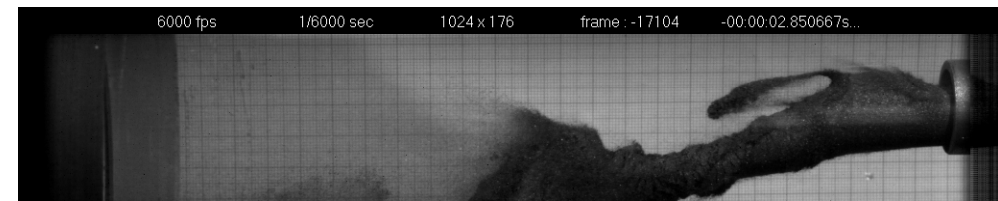
So far, the plant conveyed reliably 4.5 tonne of tungsten powder



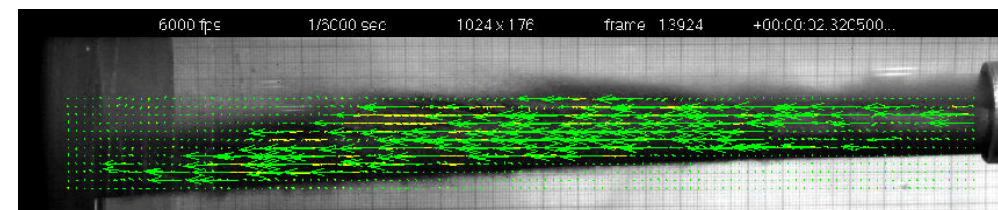
High speed image: tungsten powder jet



High speed image: tungsten powder flow in a pipe



Unstable tungsten powder jet



Particle Image Velocimetry applied to the jet

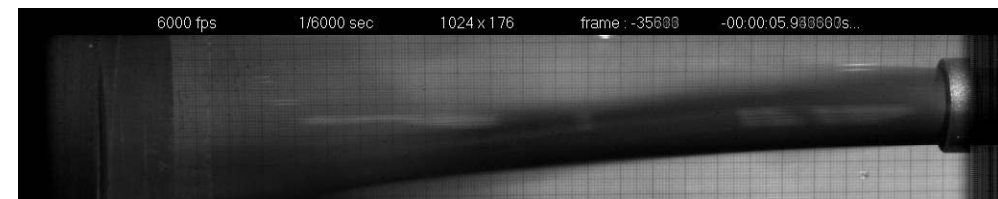


Image analysis: average jet