

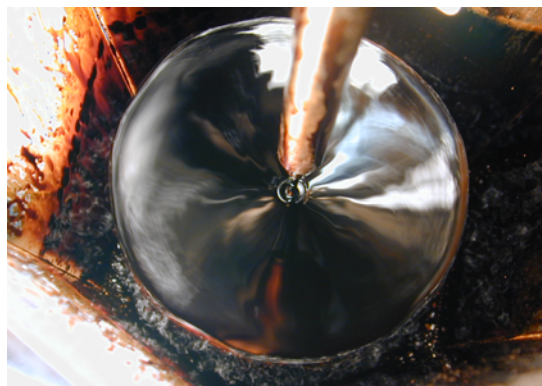
## Deformation of Ferrofluid Sheets Due an Applied Magnetic Field Transverse to Jet Flow

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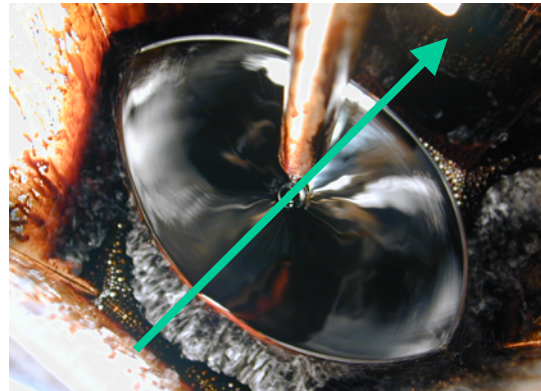
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$B = 0$  Gauss.



$B \approx 200$  Gauss.



$B \approx 600$  Gauss.



$B \approx 1200$  Gauss.

A vertical ferrofluid jet impacts a small circular horizontal plate creating a radially expanding thin sheet flow. In zero magnetic field a circular jet will create a circular sheet (upper left). Application of the magnetic field transverse to the jet in the direction of the arrow causes the jet cross-section to elongate in the direction of the applied field (upper right). The sheet distortion is to an approximately elliptical shape but with long-axis perpendicular to the jet long-axis. For large magnetic fields (lower left and right) the sheet cross-section becomes a very thin and long reed-like shape.