

Taylor-Couette Experiment – Instrumentation: Flow Visualization

We will focus on flow visualization as an important tool for understanding fluid dynamics. A key reference is the paper by Daniel Borrero-Echevarry, Christopher J. Crowley, and Tyler P. Riddick: “Rheoscopic fluids in a post-Kalliroscope world” *Physics of Fluids* 30, 087103 (2018).

<https://aip.scitation.org/doi/10.1063/1.5045053>

You can access this journal via Auraria library, then search for and download the article:

<http://skyline.ucdenver.edu/record=b2511691>

One of the experts in flow visualization is, fortunately, a professor at CU Boulder: Professor Jean Hertzberg. For a beautiful assembly of flow visualization photos, see

<https://www.flowvis.org>

Detailed materials from Dr. Hertzberg’s course are available at:

<https://www.flowvis.org/course-info/>

(see the downloadable pdf’s within the course outline).

A well-known book by Merzkirch on flow visualization is also available online through the Auraria Library:

<http://skyline.ucdenver.edu/record=b3983074>

Artistic work by a former student, Denise Philipbar, can be found at:

<http://denisephipbar.com>

She developed methods for flow-induced birefringence in my lab. Now see her paintings entitled “induced birefringence” by clicking on “Paintings” in the menu and scrolling down.

Also have a look at her installations, especially “Flow” and “Tsunami”. They are fun and intriguing.

(When I last met with her, she had a studio in an art center set up in an old prison in Virginia!)