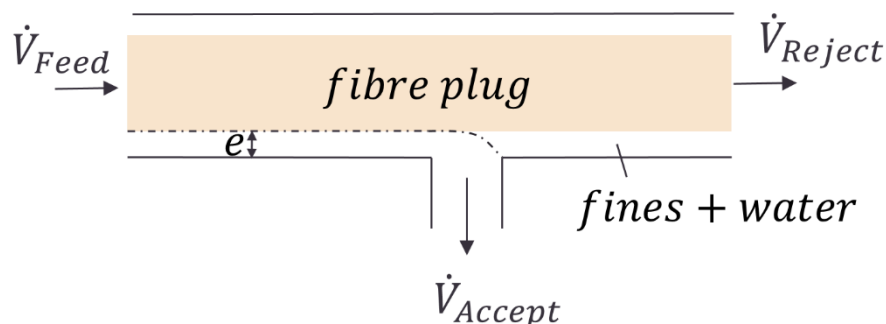


## Fractionation of Fibre Suspensions

Current trends in paper and pulp production aim on product diversification covering new markets, e.g., fibre-plastic compounds. Separating fibres by length may become a crucial process step in future. Answering to this future need, we developed a novel fractionation device in a collaborative project with industry.

First studies aimed on the investigation of key parameters by means of optical imaging, which are detected to be partly interdependent. The **goal of the master thesis** is to further investigate key design parameters, which affect fractionation performance. Modifications of the experiment will be realized by modern rapid prototyping techniques (i.e., fused deposition modeling), supplemented by single-phase CFD simulations. Additionally, newest imaging methods should be used.



*Figure 1: Illustration of the fractionation principle to be investigated.*

The master student will prepare construction drawings using CAD, preferably SolidWorks. Prior skills from a technical high-school (HTL) are of advantage, but not required. The master student will receive training in the handling of the fractionator, image recording and post-processing with our existing high-speed camera.

We offer

- high industrial and scientific relevance (i.e., a novel separation process which will be applied in “real-world” trials at a paper mill)
- bleeding edge high-speed camera equipment and image post-processing routines
- support from the project team at IPPT and IPZ
- desk and office space
- Remuneration: 6 months á 440€.

### Contact

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Thomas Schmid, [thomas.schmid@tugraz.at](mailto:thomas.schmid@tugraz.at), 0316 / 873 30438. *Starting date: as early as possible.*