

Prof. Dr. rer. nat. et Ing. habil.

Kerstin Eckert

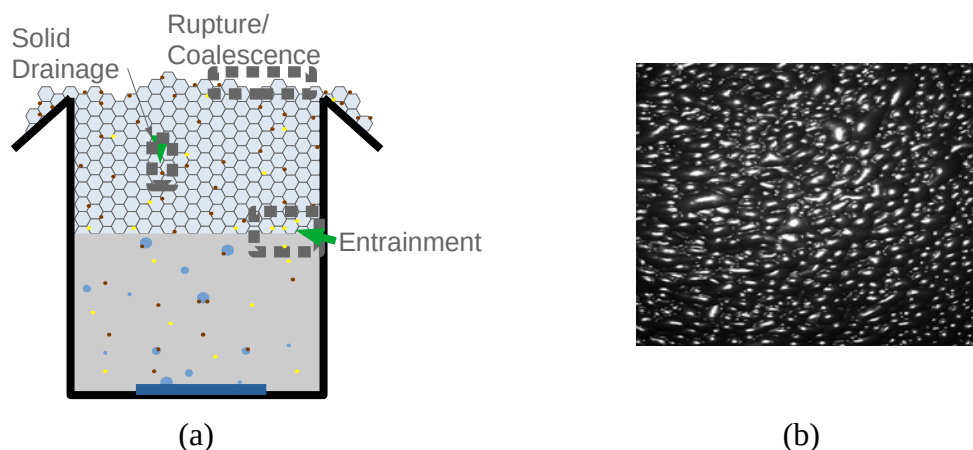
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## Experimental studies of the recovery of liquid and solids from overflowing froth

*Beleg / Bachelor Thesis / Master Thesis / Diplomarbeit / SHK*

Froth flotation is a widely applied process in the separation of materials. There, the froth phase which consists of foam with particles has a tremendous impact on the overall process performance. The flow rates of liquid and unattached solids that are transported with the froth can be a limiting factor on the overall separation efficiency. To enhance the rejection of gangue materials wash-water can be added, which will further change the behavior of the froth phase.

This work aims at understanding the one-dimensional transport of liquid and fine particles in simplified flotation column, and providing a validation for theoretical models for liquid- and solid recovery. The influence of multiple operating parameters, such as particle concentration and gas flow rate will be investigated. The bubble size and froth composition will be obtained by image processing and sampling.



(a) Schematic representation of phenomena in the froth phase of flotation. (b) Froth surface in an industrial flotation cell.

- Field of study: Process Engineering, Mechanical Engineering, Physics or similar
- Basic knowledge of fluid mechanics

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