

5-25-2016

Cold flow modelling of dual fluidised bed pyrolysis

Christoph Pfeifer

*Institute of Chemical and Energy Engineering, University of Natural Resources and Life Sciences, Vienna (BOKU), Austria,
christoph.pfeifer@boku.ac.at*

Gregor Tondl

Institute of Chemical and Energy Engineering, University of Natural Resources and Life Sciences, Vienna (BOKU), Austria

Andreas Frohner

Institute of Chemical and Energy Engineering, University of Natural Resources and Life Sciences, Vienna (BOKU), Austria

Follow this and additional works at: http://dc.engconfintl.org/fluidization_xv



Part of the [Chemical Engineering Commons](#)

Recommended Citation

Christoph Pfeifer, Gregor Tondl, and Andreas Frohner, "Cold flow modelling of dual fluidised bed pyrolysis" in "Fluidization XV", Jamal Chaouki, Ecole Polytechnique de Montreal, Canada Franco Berruti, Western University, Canada Xiaotao Bi, UBC, Canada Ray Cocco, PSRI Inc. USA Eds, ECI Symposium Series, (2016). http://dc.engconfintl.org/fluidization_xv/131

This Abstract and Presentation is brought to you for free and open access by the Proceedings at ECI Digital Archives. It has been accepted for inclusion in Fluidization XV by an authorized administrator of ECI Digital Archives. For more information, please contact franco@bepress.com.

Universität für Bodenkultur Wien
**University of Natural Resources and
Life Sciences, Vienna**

Fluid dynamics study on a dual fluidized bed pyrolysis process in an automated cold-flow model

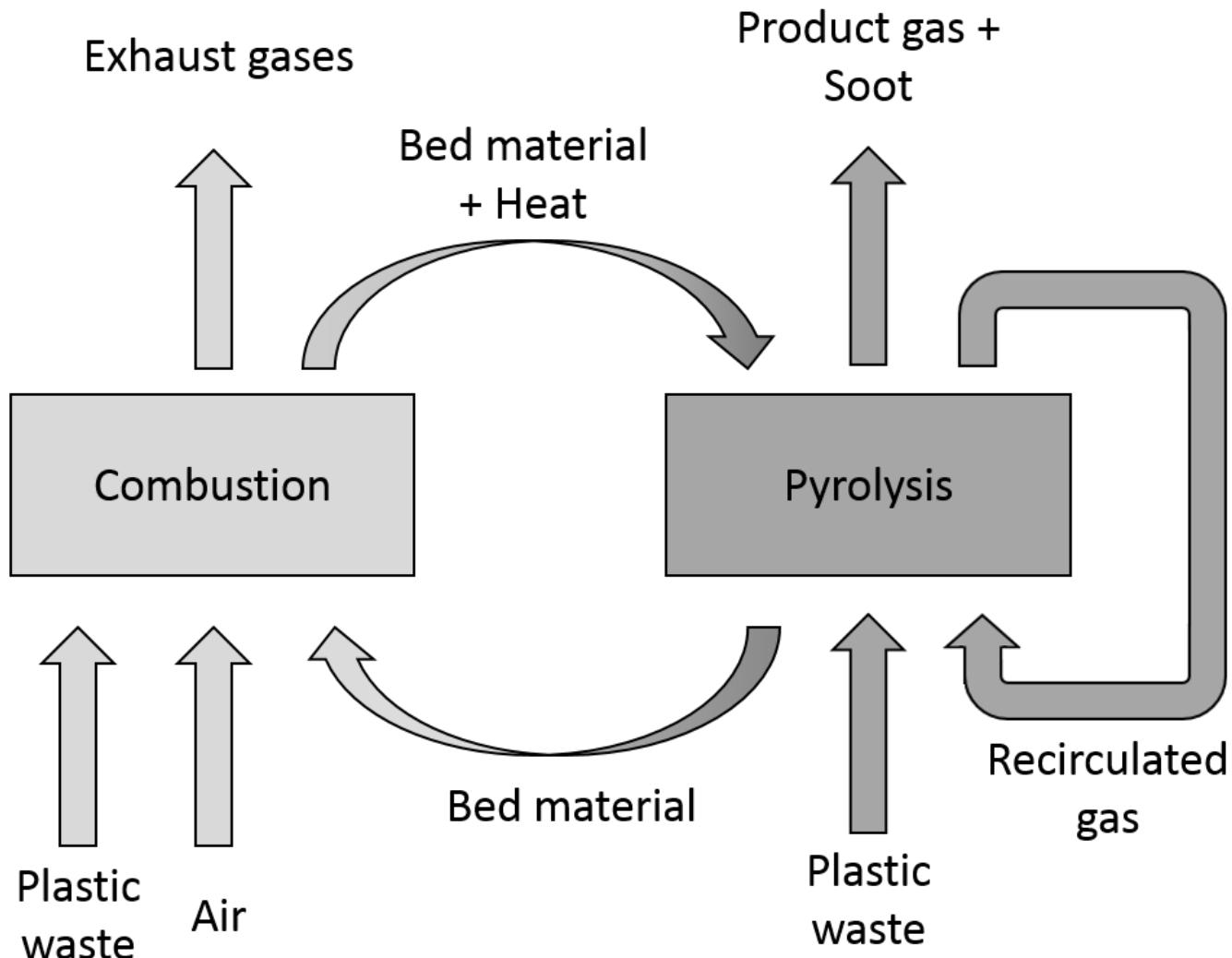
Maximilian August HABL, Andreas FROHNER, Gregor TONDL, Christoph PFEIFER

Fluidization XV

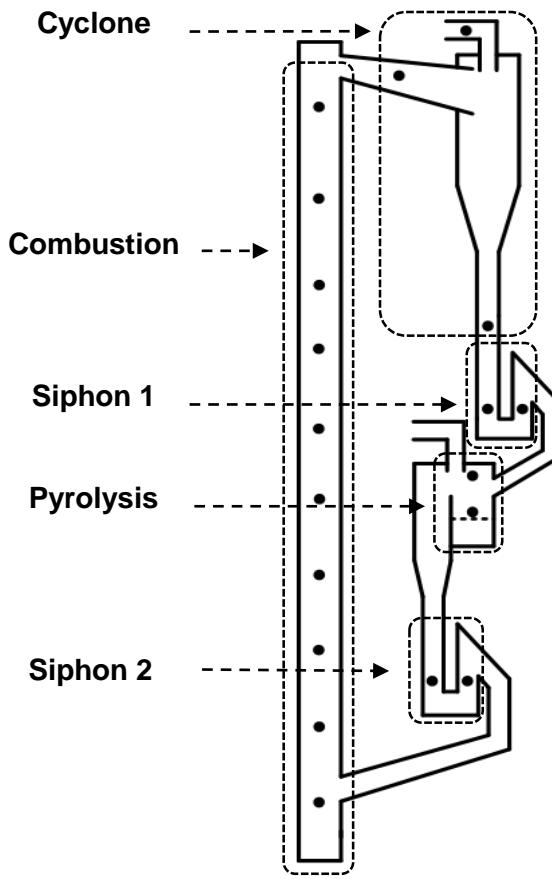
www.boku.ac.at



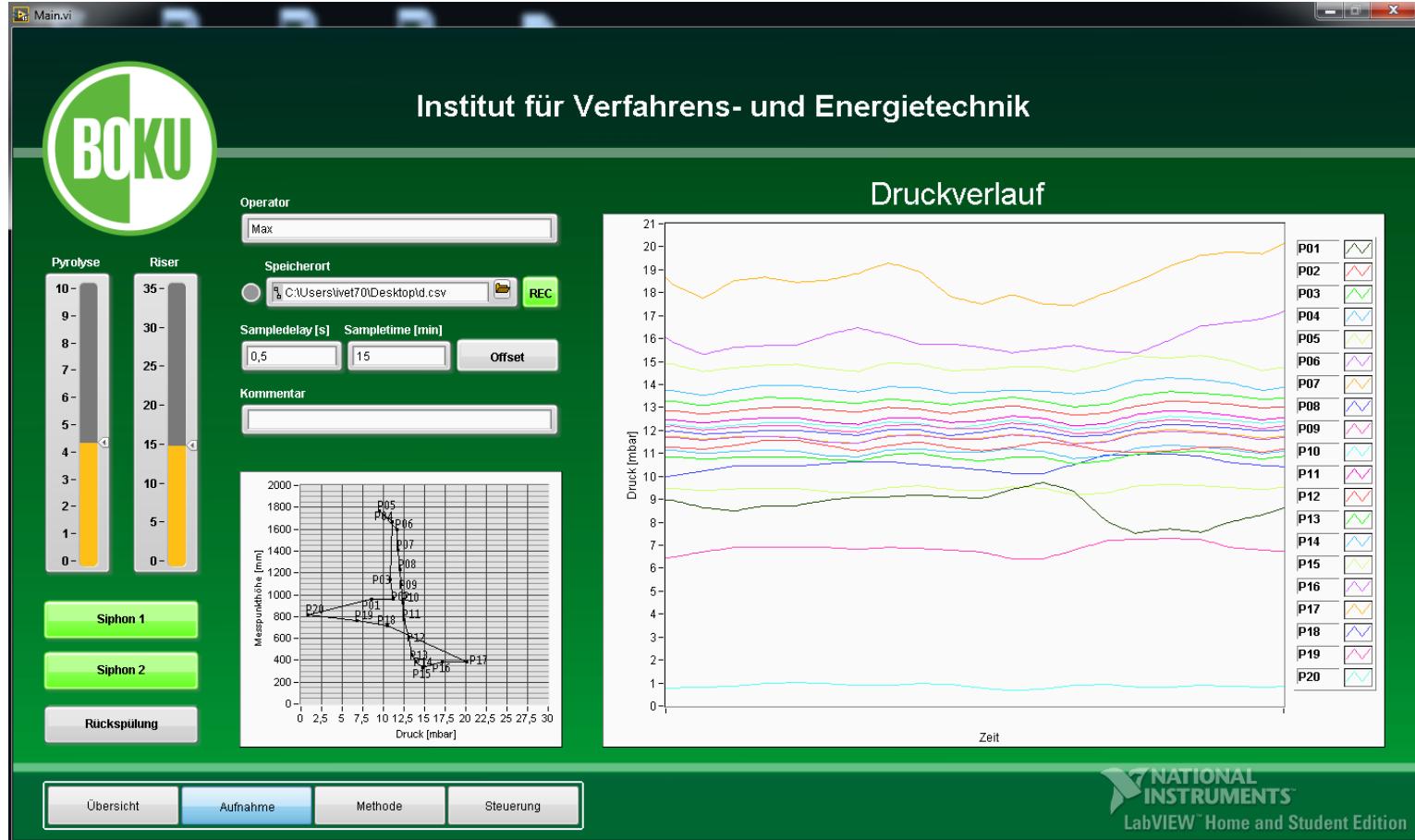
Pyrolysis process



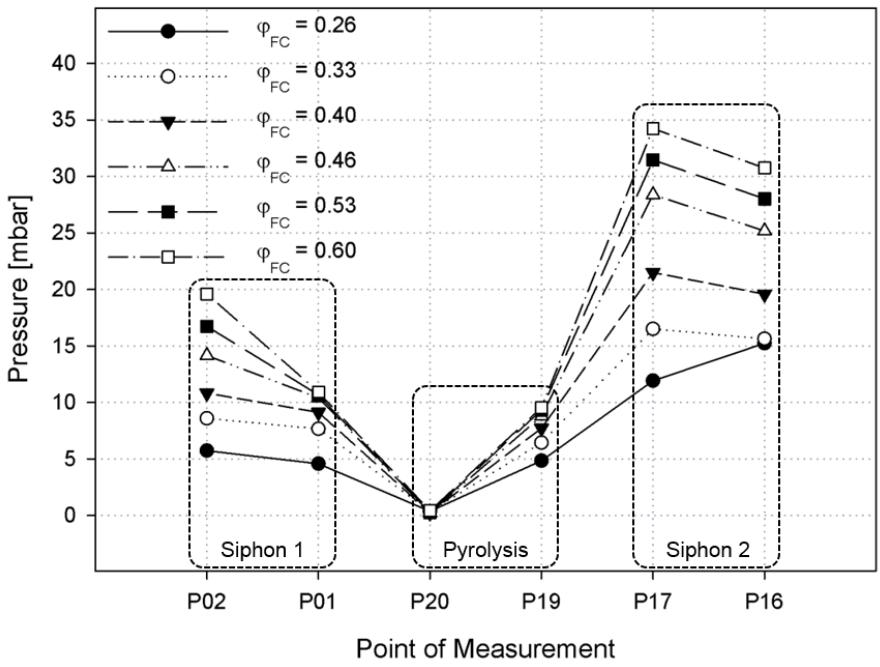
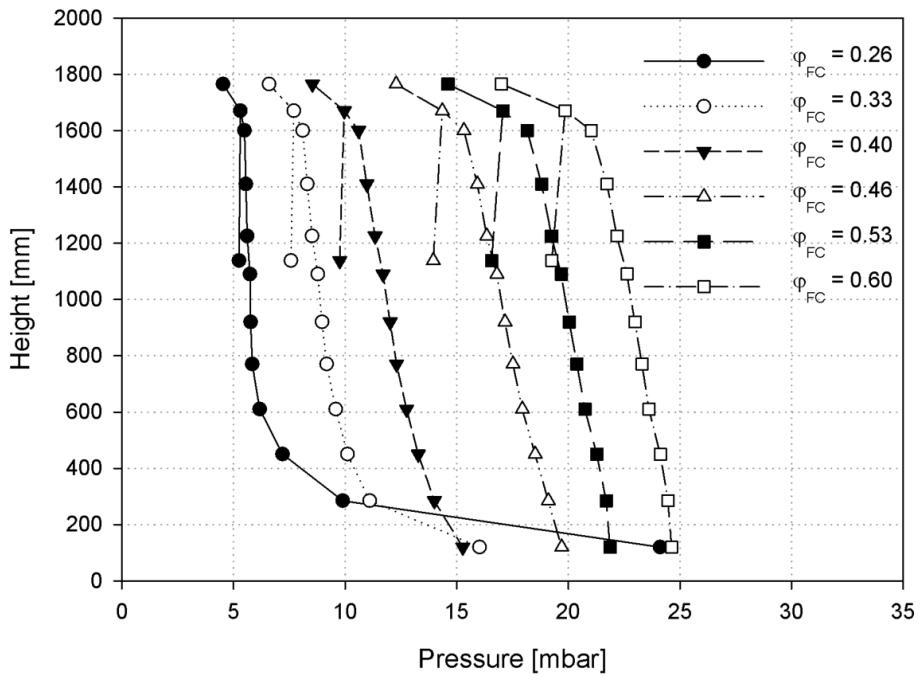
The cold flow model I



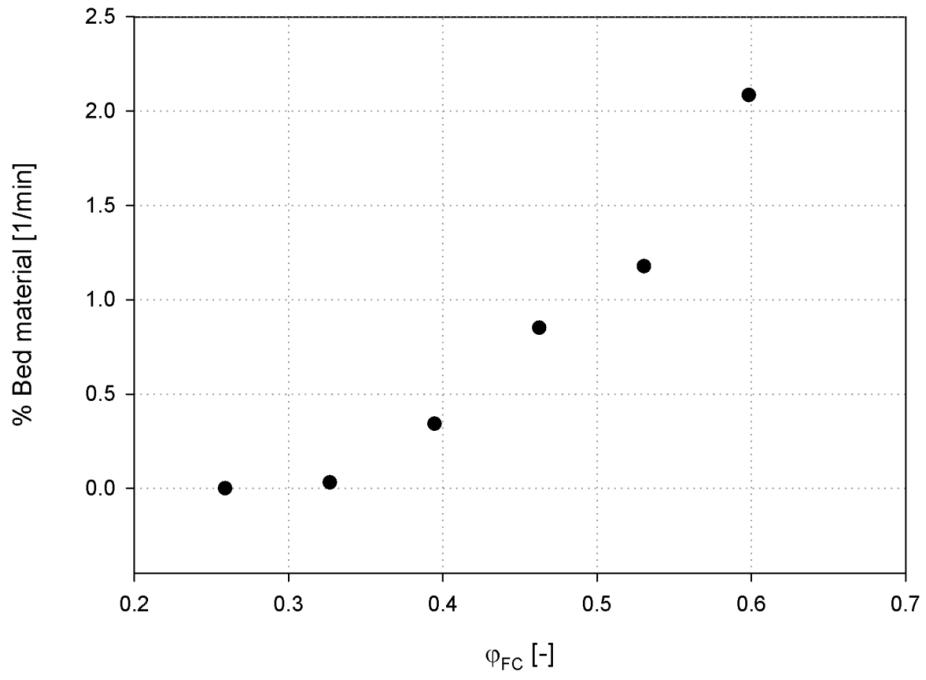
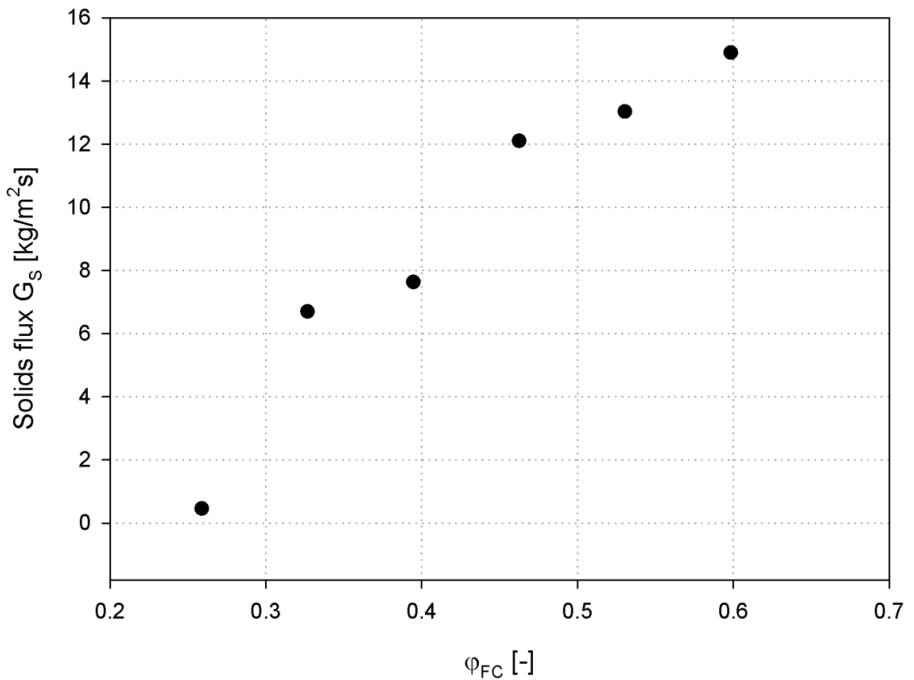
The cold flow model II



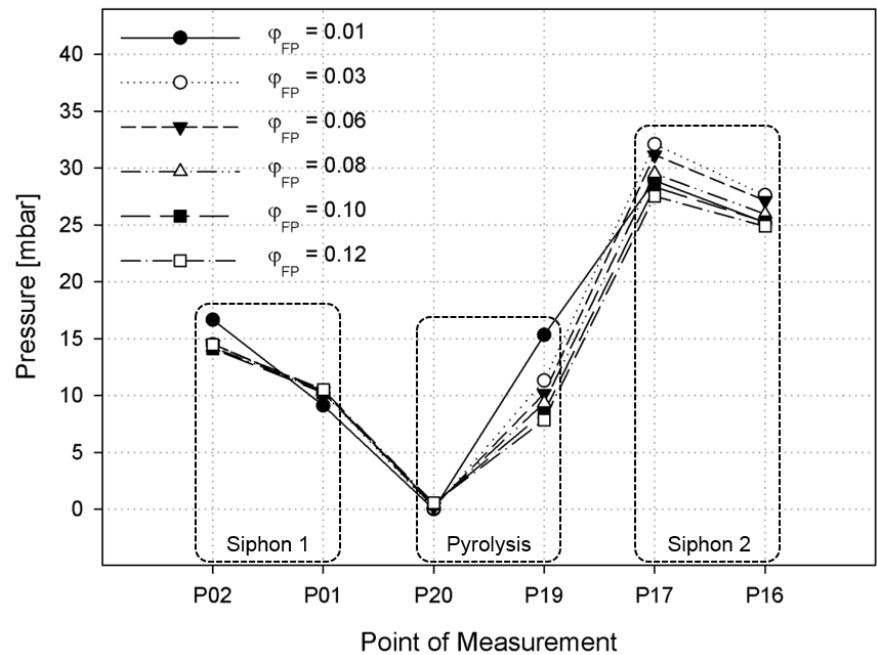
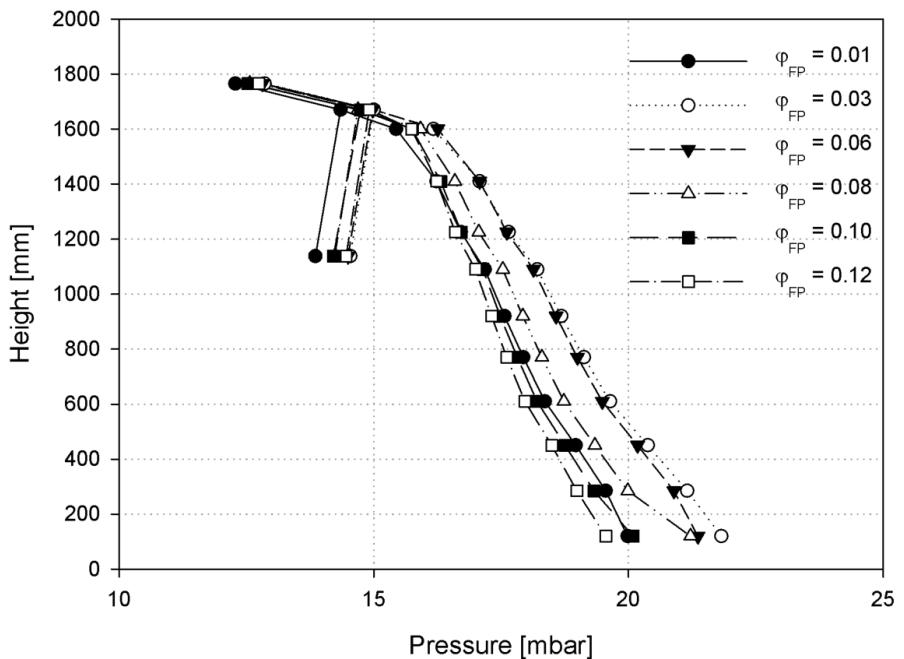
Variation of combustion fluidization I



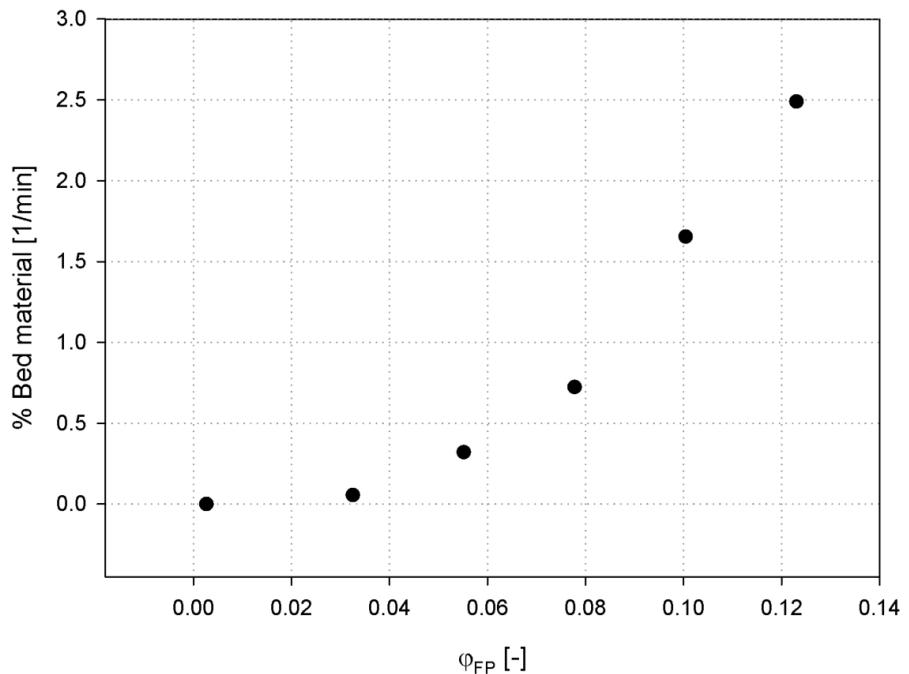
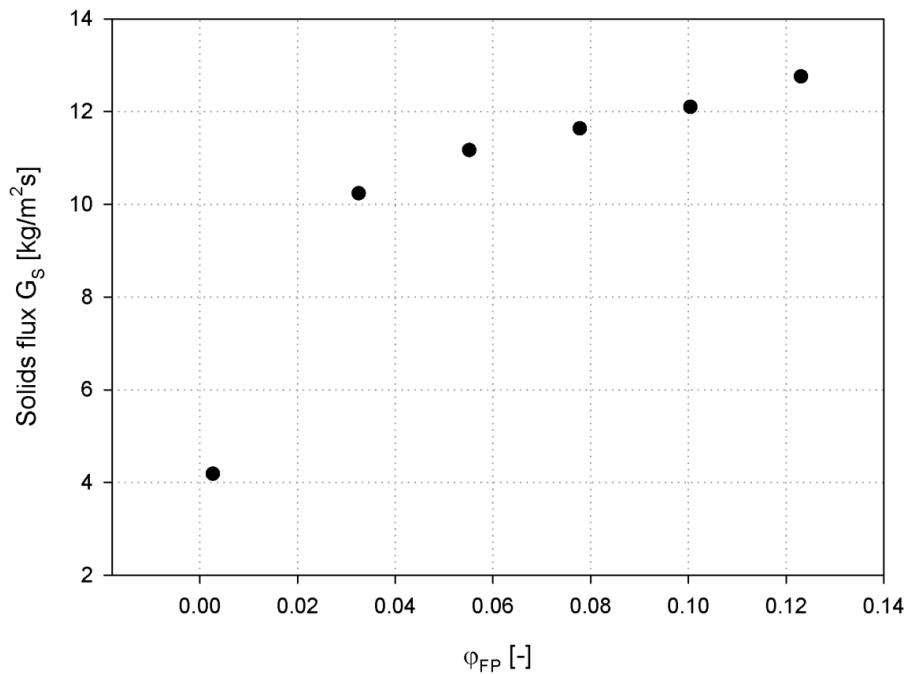
Variation of combustion fluidization II

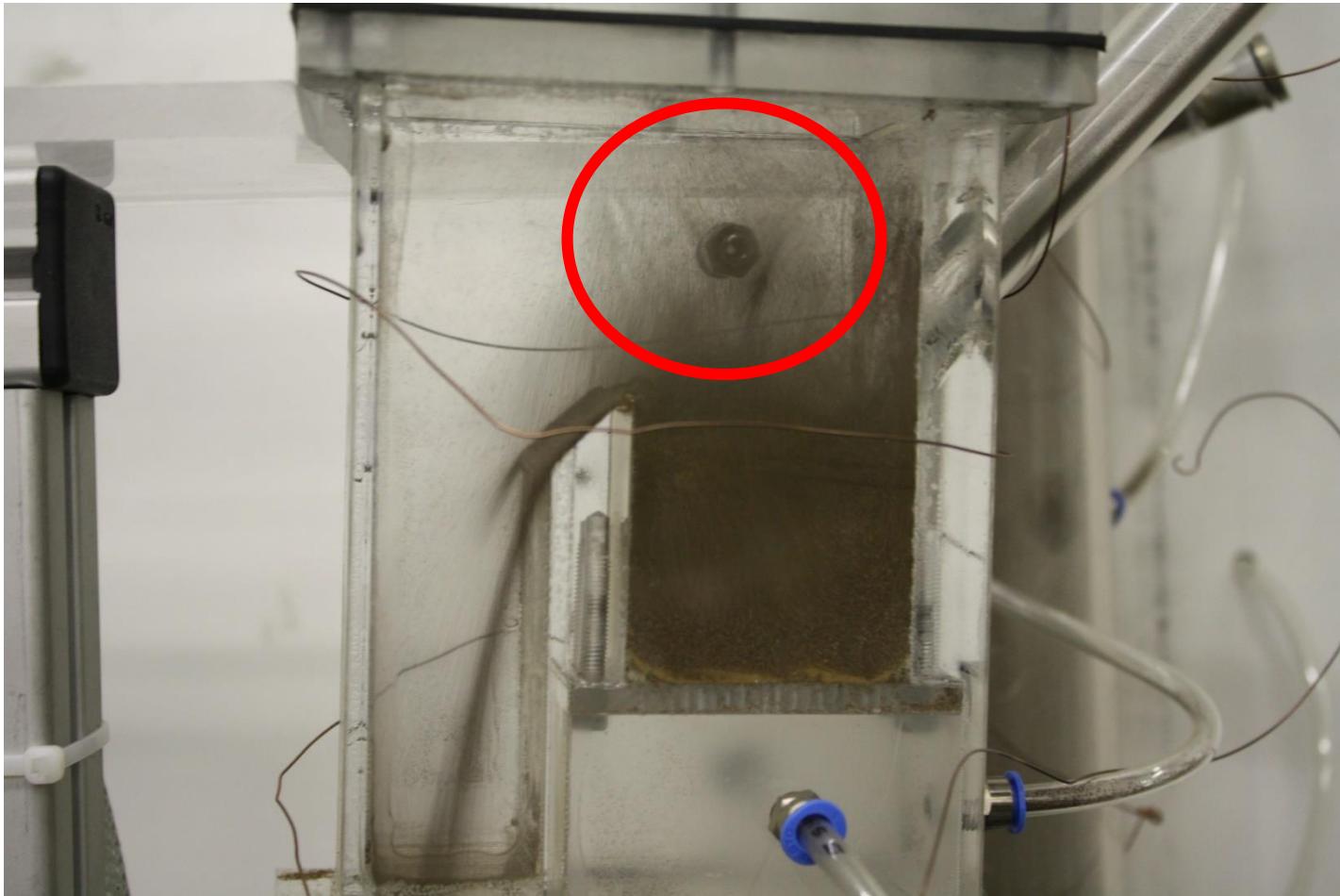


Variation of pyrolysis fluidization I



Variation of pyrolysis fluidization II







Conclusion & Outlook

- Measurements of the riser follow the literature knowledge
- Global solids flux mostly influenced by combustion fluidization
- Bed loss mostly influenced by pyrolysis fluidization and bed height

- Simulation of model
- Improvement of pyrolysis
- Hot pilot plant

