



Recent work on on-line tar analysis at TU Berlin

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Junior research group ‚TCKON‘

**Fundamental examinations and selective influencing of heterogeneous reactions in thermochemical conversion of biomass and robust, continuous on-line monitoring of the organic load on the gas phase .
„NWG-TCKON“**

Junior research group funded in the framework of the call of the Federal Ministry of Education and Research (BMBF):

Promotion initiative BioProFi: "Bioenergy – process oriented research and innovation"

In the framework of the promotion concept ‚Fundamental research 2020+‘ and the ‚6th energy research program‘ of the federal government



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The team



Main aims of research group

- Actively influencing of heterogeneous reactions of gas or vapour with the solid surfaces of carbon structures in the conversion process
- Selective influencing and making use of the properties of char generated in the process
- **Fluorescence of aromatic multi-component mixtures in hot product gases of Thermochemical conversion processes / development of a robust ,tar‘ sensor**

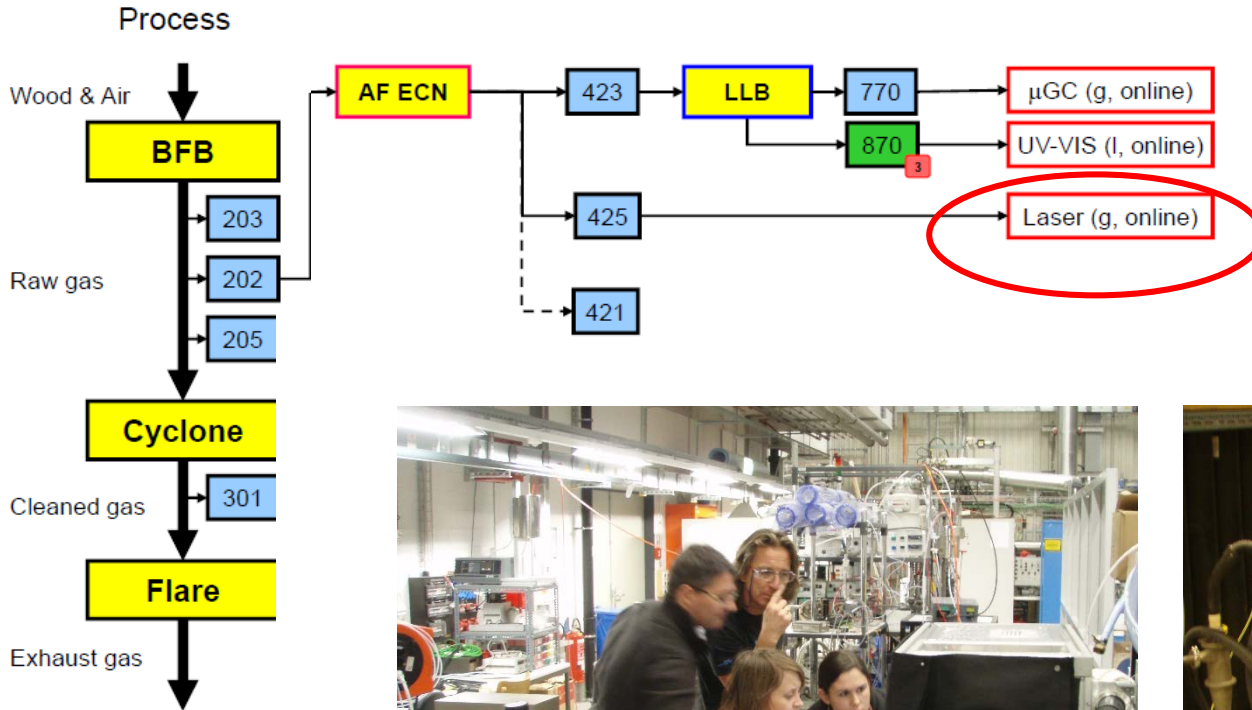
Current work

Field test with existing demonstrator „CON-TAR“ which was presented in the tar workshop in Berlin 2011

Further experimental setups are currently under development and thoroughly investigation

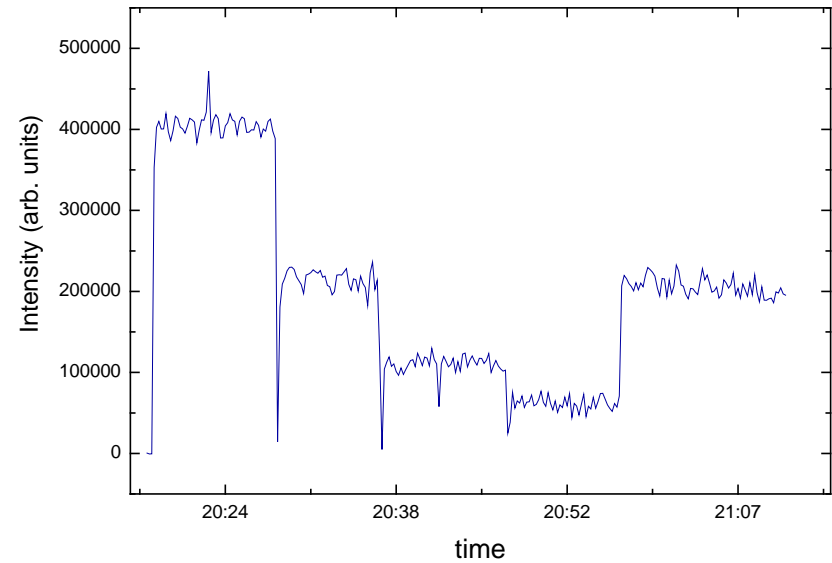
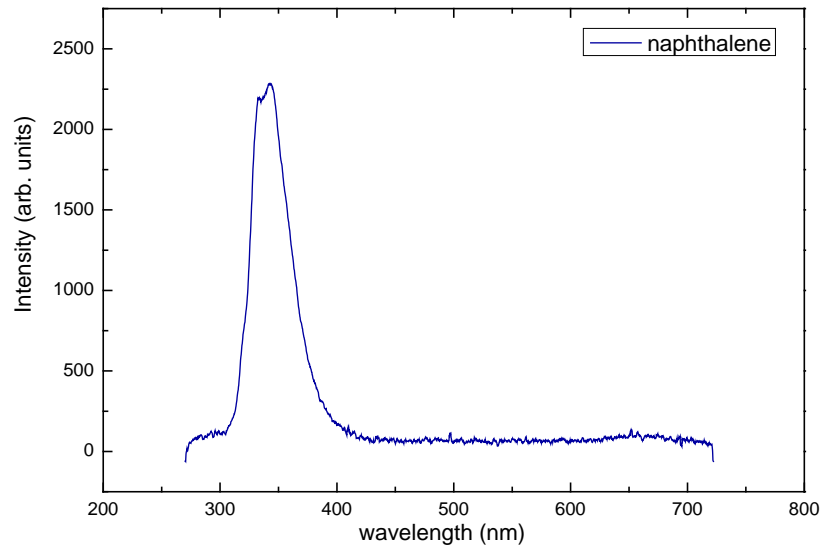


host site measurements

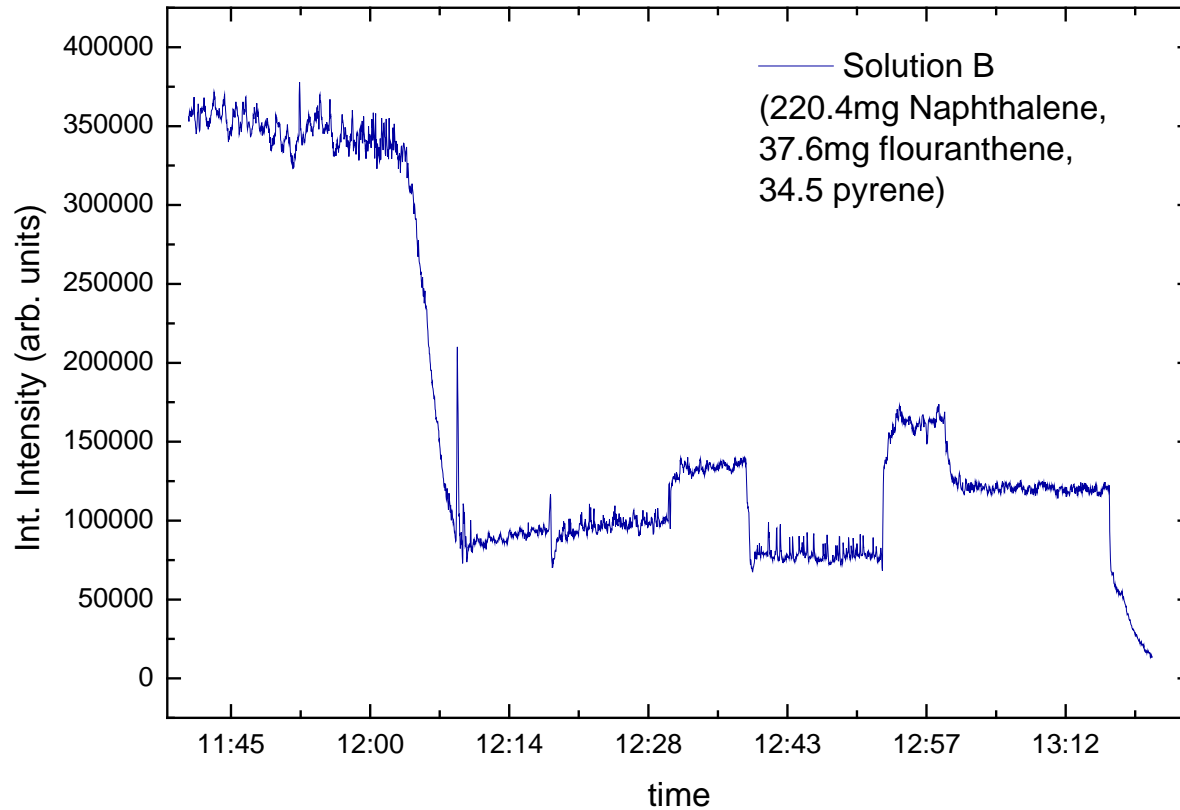


Testgas measurements 18.11.2013

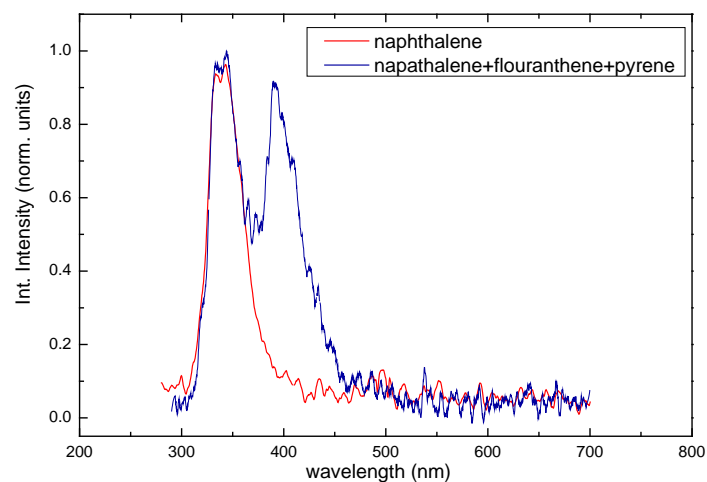
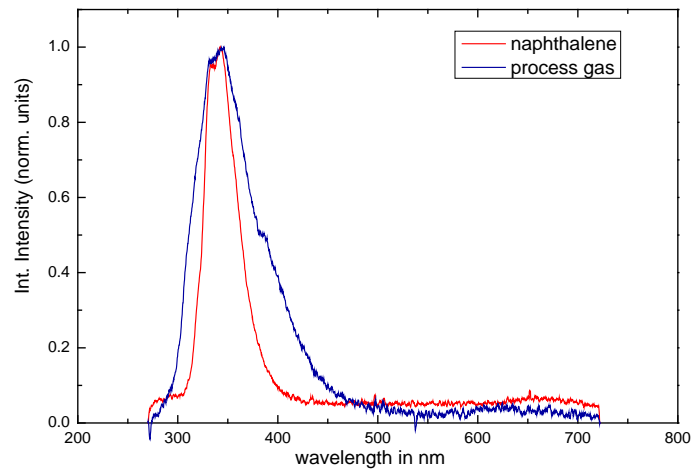
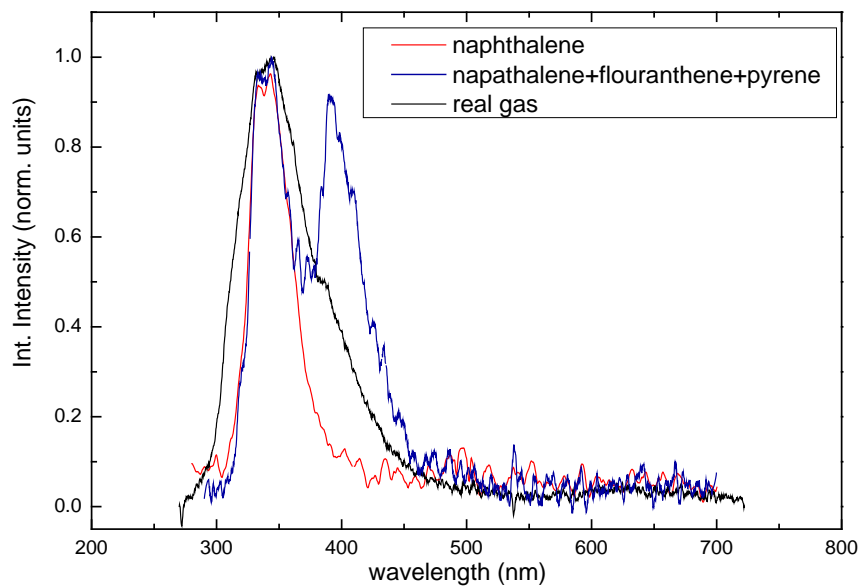
Naphthalene (20mg / 10ml Toluol)



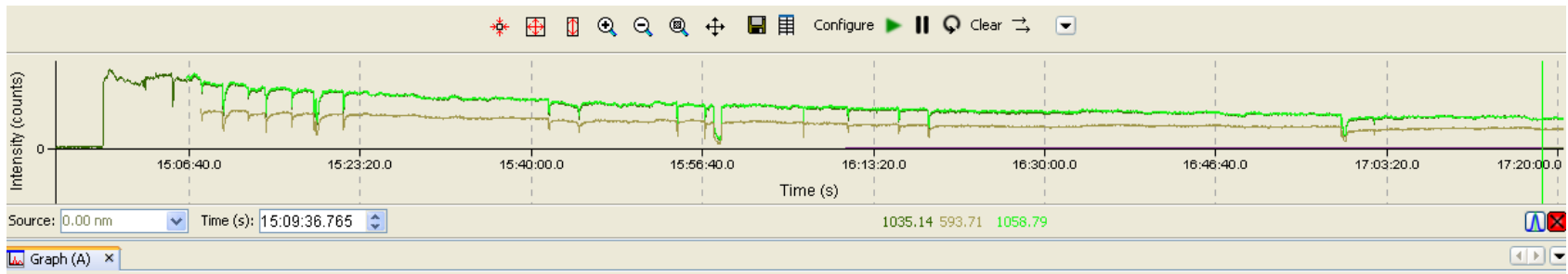
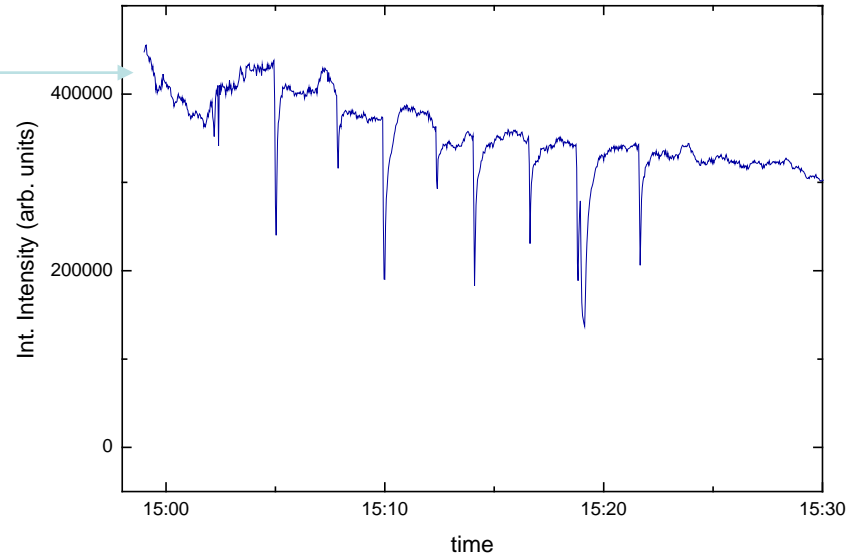
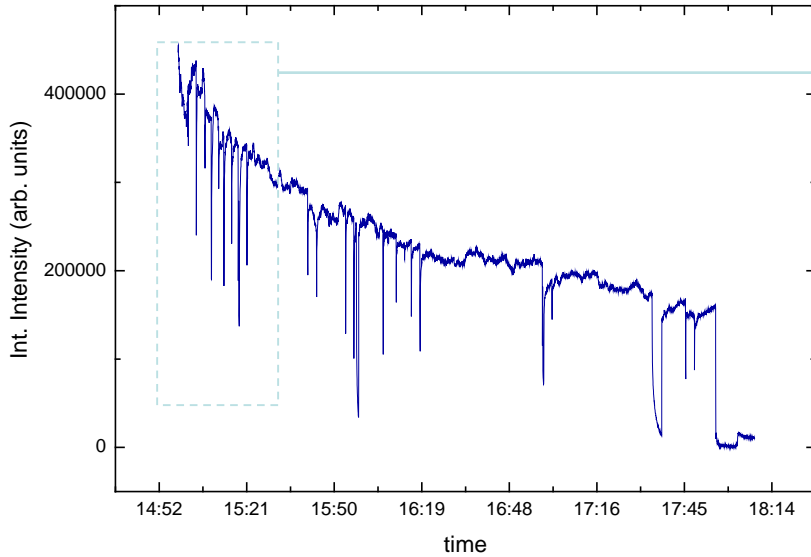
Process gas measurements 18.11.2013



Fluorescence spectra



Process gas measurements 18.11.2013



- Further development work is carried out in a recent project
- Current aims include to improve the stability of the system and system components and calibration routines with test gases with individual tar compounds and tar froming species mixtures
- Aim in the project: the development of a robust sensing and monitoring tool

Thank you for your interest
and your attention!