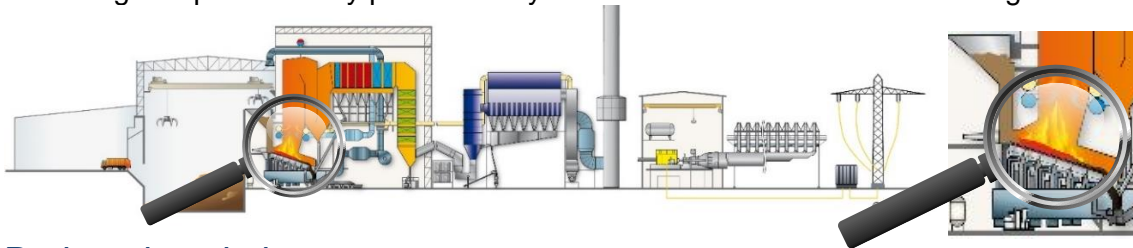


JOIN US

Internship Algorithm Design (3-6 months)

About us

Hitachi Zosen Inova (HZI) is a global market leader in energy from waste (EfW) and renewable gas. HZI acts as an engineering, procurement and construction contractor and project developer, delivering complete turnkey plants and system solutions for thermal and biological EfW recovery.



Project description

The thermal treatment of municipal solid waste is challenged by inhomogeneous waste with variable mechanical properties and energy density. The heat produced by the combustion is used to generate steam. To maintain a desired steam flow production, variable waste compositions must be accounted for using appropriate feed forward and feedback control approaches.

The combustion of the waste takes place on grate elements through which air is injected. To improve the feeding of waste with variable composition to the grate and its transportation on the grate knowledge of the waste layer thickness on the grate is of great help.

This project aims at an online estimation of the waste layer thickness on the grate elements using measurements of the air flow through and pressure difference across the grate. As the conditions of the air flow through the grate elements change throughout the operation of the plant over time, an adaptive online estimation is required. Previously elaborated approaches have shown a limited adaptability to such changing conditions.

Appropriate parameter estimation algorithms should be evaluated with MATLAB/Simulink using real measurement data from a plant. The most promising approach can be transferred to a Siemens PLC for live validation on a plant. Depending on the progress a plant visit is possible.

Prerequisites

Lectures in System Modelling and State/Parameter Estimation, MATLAB/Simulink

Why work for us in R&D?

We are a small team of engineers with various cultural background and different levels of experience including other students. A mix between work in the office (Zurich) and from home is possible. Adequate financial compensation is offered. The company is successfully growing offering future opportunities for talents. Do you want to contribute to a more sustainable energy production and care for the environment? Then apply today.

Contact

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