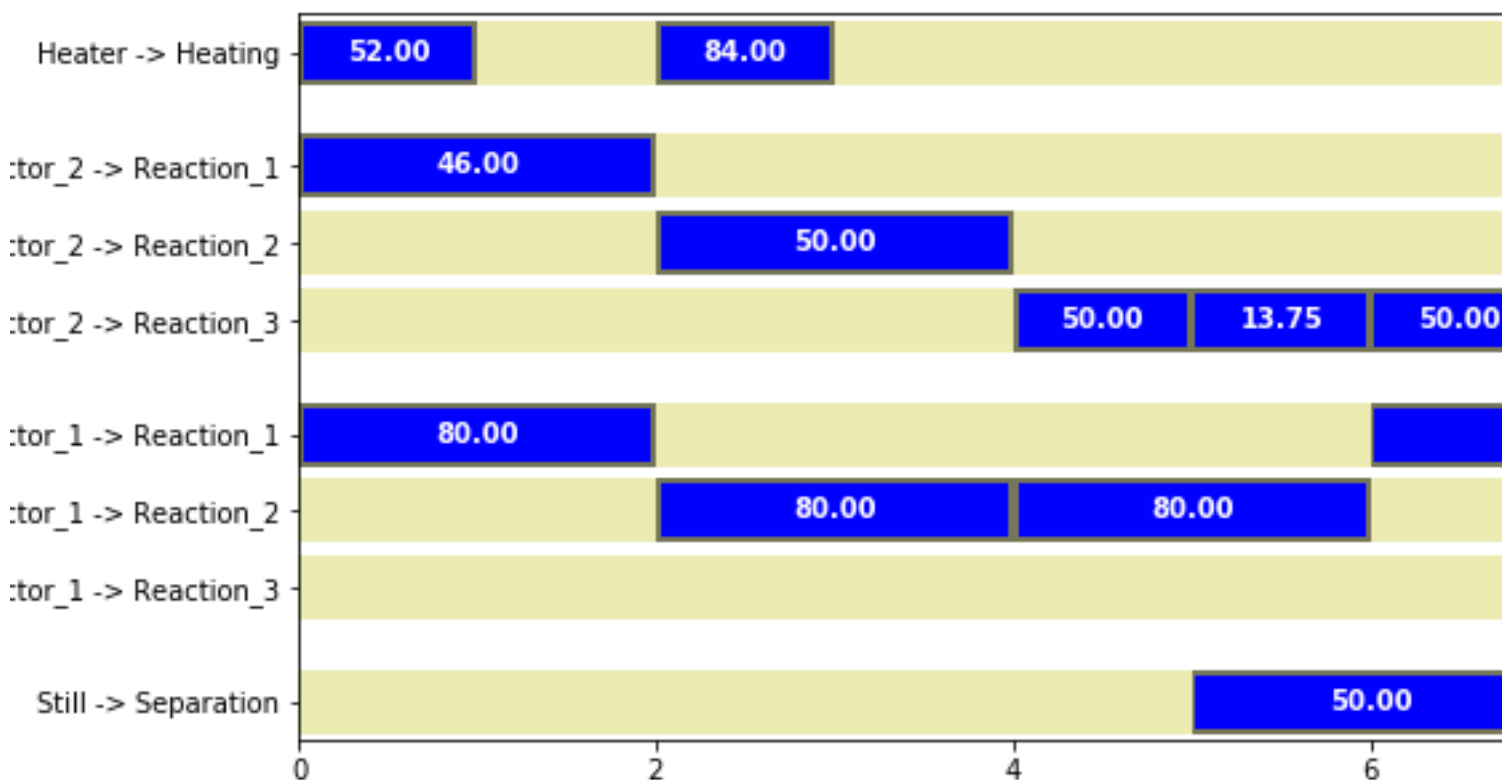# STN Scheduler

The State-Task Network (STN) is a method for modeling and scheduling multipurpose batch processes developed by Kondili, et al., in 1993, and extended by others.

This repository consists of a python module STN to assist in the modeling and scheduling of State Task Networks, and Jupyter notebooks demonstrating their use.

- Overview of STN Scheduler (to be finished)

- State Task Network Example of Kondili, et. al, 1993.

- State Task Network Example of Chu, et. al, 2013.

- Example from Maravelias and Grossmann, 2003.

- Classroom Case Study of a Multipurpose Batch Fermentation Plant (to be finished).

This module implements the STN model using the Pyomo package for building optimization models in Python, and requires an MILP solver to compute schedules.

Dependencies

- Pyomo

- An MILP solver is required for computing solutions to the MILP scheduling problems. The module has been tested with GLPK and Gurobi.

Related Projects

- pySTN Implementation of a robust scheduling system based on STN (State-Task-Network) models.