A non-linear MPC strategy for feed conversion targeting in a FCC pilot plant

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The main objective of this work is the development of an advanced control scheme for the Fluid Catalytic Cracking (FCC) Pilot Plant (PP) operated in the Chemical Process Engineering Research Institute (CPERI). This pilot plant is used for catalyst benchmarking, a very demanding procedure, that requires unit operation within a predefined span in order to match the industrial standards. For the tight, robust and efficient control of the FCC pilot plant a non-linear Model Predictive Control (MPC) strategy is implemented, along with an Extended Kalman Filter (EKF) for state and parameter estimation.

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