

Development of Control Performance Assessment of Papermaking Process Based on Model Predictive Control

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Paper basis weight and moisture content are two important specifications of paper quality in papermaking process. The reason of the difficulties to be controlled well in a process is on that a lot of factors have influences on them. Based on the features of determining the capability of the current controller and locating the best achievable performance, control performance assessment (CPA) techniques have received a great interest from both academia and industry. In order to apply CPA technique to the papermaking process, the MPC controller should be designed and tuned first. The improvement potential of the MPC controller is then figured out and assessed by using the control performance assessment approach. In this paper, a new development of CPA is tested and validated in papermaking process using a combined concept of process capability index and CPA. Acknowledgement: This work was supported by BK21 project, the Korea Science and Engineering Foundation (KOSEF) grant funded by the Korea government (MEST) (KRF-2009-0076129) and funded by Seoul R&BD Program (CS070160).