

Application of image analysis in coating process

김동재, 유필진, 남재욱^{1,†}
성균관대학교; ¹서울대학교
(jaewooknam@snu.ac.kr[†])

The Continuous liquid coating process is the important step for manufacturing multi-functional films such as adhesive, transparent conductive films, and solar cells, etc. The process is composed of several unit operations; e.g., coating, drying and calendering. For successful operations, they need to be operated under optimal process conditions, which guarantee to produce defect-free coating products at high speed. Herein, we propose a systematic approach for image-based process and product analyses. This method can extract valuable information by examining unit operation or visualizing products that can guide to find desirable processing conditions and improve the design of process units.

In this presentation, first, we propose a new tool for automatically detecting menisci of the coating bead of slot coating. It will give aid to determine which parameters are important for computational models and to find location of meniscus movement. Second, we propose methods for analyzing metal nanowire network inside the TCF fabricated by a coating process. Herein, general properties of networks such as alignment, length, area fraction, conductance, quality of network are measured.