

Challenges in process control for continuous processing for production of biopharmaceutical products

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Abstract:

Continuous processing has been garnering much interest lately for production of biopharmaceutical products. Purported benefits include higher productivity (10-15X), significant shrinkage in facility footprint as well as equipment cost, and improved process control and consistency in product quality. However, industrial implementation remains a non-trivial task due to the significant complexities associated with controlling continuous processes. The risk of product or process deviations in a continuous set-up necessitates use of robust and intelligent controllers that are capable of handling them in an automated manner. Developing such integrated controllers has several challenges with respect to developing model-based control strategies and interfacing between the unit operation equipment and control system. Real time monitoring of critical quality attributes followed by real time process control, while desired, may not be feasible for every attribute and for every unit operation. This talk discusses the different hardware and software challenges faced during integration of different unit operations along with the potential solutions.