SEMINARIO DE ANÁLISIS NUMÉRICO Y MODELACIÓN MATEMÁTICA.

Departamento de Matemática, UBB

Centro de Investigación en Ingeniería Matemática (CI^{2}MA), UDEC

Expositor:

Fernando Betancourt C.

Departamento de Ingeniería Metalúrgica, Universidad de Concepción

Título de la Charla:

A simple mass balance controller for a clarifier-thickener unit

Fecha y Hora:
Martes 5 de Junio de 2012, 16 Horas.

Lugar:

Sala Seminario, Facultad de Ciencias, Universidad del Bío-Bío, Concepción.

Resumen

The rational use of water in the mineral processing industry has become an important issue due to geographical location of many plants. The increase of capacity in many copper concentrators has lead to an increased effort for recovering the maximum amount of water in the solid-liquid separation process. Thickeners work continuosly to produce a concentrated underflow and a water overflow free from particulate matter. The behavior of many process can be represented by a set of intensive and extensive variables. In this case, practice has shown that standard feedback control based on intensive variables has not been very easy to tune and effective in providing consistent operations. In many plants, thickeners operate with poor standards, with high dosages of flocculants, overflows with high fine particles contents and highly variable underflows. In this talk, we present a novel nonlinear PI controller which is able to stabilize thickener operation using a simple control structure. An international accepted model and calibrated using plant data is used to illustrate the design methodology and the level of performance attained by the controllers. The analysis of the results points out the improved performance by using extensive variables.

Informaciones: royarzua@ubiobio.cl y dmora@ubiobio.cl