ABSTRACT

A METHOD FOR PREDICTING LIQUID LEVEL IN A TANK OF AN INDUSTRIAL PROCESS

The present invention discloses a method (100) for predicting liquid level in a tank of an industrial process, the method comprising the steps of obtaining a first set of historical data, a second set of historical data, and a third set of historical data (110), wherein the first set of historical data includes past inlet flow rates of the liquid into the tank, the second set of historical data include past liquid consumption rates of different processes and/or equipment, and the third set of historical data includes past operation status of the processes and/or equipment; computing a projected inlet flow rate of the liquid into the tank (120) and a projected outlet flow rate of the liquid from the tank (130); and determining a change in the liquid level (140) by calculating a difference between the computed projected inlet flow rate and the projected outlet flow rate (301), wherein the projected inlet flow rate of the liquid is computed by the steps of adopting a distribution fitting algorithm to determine a best fit probability distribution for the first set of historical data and subsequently obtaining the projected inlet flow rate based on the best fit probability distribution, and wherein the projected outlet flow rate of the liquid is computed by the steps of converting the second set and the third set of historical data into matrices using a matrix algorithm and subsequently performing one or more matrix operations on the matrices to obtain the projected outlet flow rate of the liquid.

(The most illustrative figure: Fig. 1)