

MULTI-LOOP PID CONTROLLER DESIGN FOR DISTILLATION COLUMN USING FIREFLY ALGORITHMS

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The PI/PID controllers are used widely in order to accomplish improved results in the process industries. In this piece of work the PID controller arrangement is suggested for standard MIMO distillation column models, such as Wardle and Wood (WW) and Vinante and Luyben (VL) which is existing in the literature. This work enforces a de-centralised controller for both the top product and bottom product and with the help of MFA the controller is configured. The ideal PID values can be discovered by FA optimal search which is a minimized objective function. The reference following and the disturbance elimination operations is been treated under the PID controller which tends to give time domain values and error values. These values are then calculated. The FA adjusted PID is certified with the use of controllers which is designed using PSO and GA. Hence the results confirmed that the anticipated approach offers best result on the considered models.