

ABSTRACT

TITLE OF THE INVENTION: COOPERATIVE LEARNING SYSTEM AND MONITORING SYSTEM

[PROBLEM] To improve a bottleneck in treatment processes and increase the efficiency of the processes as a whole.

[SOLUTION] A cooperative learning system according to an embodiment can be used for process monitoring in which a monitoring model is provided for each of a plurality of processes arranged in chronological order at predetermined transition time period intervals. The system stores, in chronological order, first monitoring data in a first process, second monitoring data in a second process upstream or downstream of the first process, and at least one monitoring result from the first process output from a first monitoring model using the first monitoring data as an input parameter. The system performs parent model learning processing for the first monitoring model by using the first monitoring data and the monitoring result from the first monitoring model, and performs child model learning processing for a second monitoring model by using a monitoring result from the first monitoring model at a first time as teacher data and using the second monitoring data at a second time as an input parameter, the second time being shifted from the first time by a transition period.

[SELECTED DRAWING] Fig. 2