ABSTRACT

A significant increase in population resulted in an increase in goods and services, including laundry services. Laundry services are increasing along with the increase in population which results in an increase in water and the use of detergents has an impact on producing liquid waste due to disposal by laundry. Therefore, an automatic control system was created in the form of a sensor to determine the increase in laundry. The sensors used are pH sensors as acidity meters with an average error value of 3.0%, TDS sensors as sensors to measure dissolved solids levels with an average error value of 3.5%, and turbidity sensors to measure turbidity in wastewater with an average error of 3.1%, Fuzzy methods are used to determine control systems because this system uses datasets. The range of pH values in system test results varies from 4.75 to 10.37, covering an acid to alkaline range. TDS values show variations in dissolved solids content in laundry waste with values ranging from 112 to 872 ppm. Then, there is a turbidity value also varies from the minimum value to the maximum value, from 0 to 1000 NTU, which reflects the level of turbidity of water in laundry waste. In most tests, the final result shows that the output matches the actual pump output, and then the test is sent from the microcontroller to the Telkom IoT Platform *web database via the MQTT protocol.*

Keywords : Laundry, pH, Turbidity, Fuzzy