IMPLEMENTATION OF KALMAN FILTER TO MONITOR THE LEVEL FLUCTUATIONS IN A DAM/RESERVOIR/TANK USING FPGA

A
Report submitted to
M S RAMAIAH INSTITUTE OF TECHNOLOGY
Bangalore

For Partial Requirement of award of Degree of

Bachelor of Engineering in Instrumentation Technology

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BANGALORE
May-2012

Recognised and sponsored by Karnataka State Council for Science & Technology(KSCST), IISC, Bangalore.

ABSTRACT

The overall aim of this project is to design, implement and evaluate the performance of a Kalman filter using FPGA. The project's main objective is to design a synthesizable VHDL model for the algorithm which defines this filter. It is necessary to be acquainted with state space methods and the Kalman filter algorithm. The set of equations, their relevance to one another and the overall functionality of the algorithm requires complete understanding. The resulting program is then implemented with Field Programmable Gate Array for a reservoir or a dam, enabling the end result to be seen and observed.