

Sudheer P. Gokhale, Set-up for cross correlation flow-meter, M. Tech. Thesis, Department of Electrical Engineering, Indian Institute of Technology Bombay, 1994.

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**Abstract** - In many fluid flow measurement applications, it is required that the flow-meters should not obstruct the flow. In the cross correlation flow-meter, flow is measured by obtaining the time taken by disturbance in the flow to travel from one point to other separated by a known distance. Flow measurement is obtained from transmit time, which is estimated by locating the peak in cross correlation between disturbance signals from both channels.

This project aims at developing sensor electronics and correlator for cross correlation flow-meter using ultrasound transducers. Sensor electronics include RF amplifier, demodulator and band-pass filter. Amplitude demodulation is used to detect the disturbance. The cross correlation is obtained using frequency domain method. The location of the peak of cross correlation is used to estimate the flow rate.