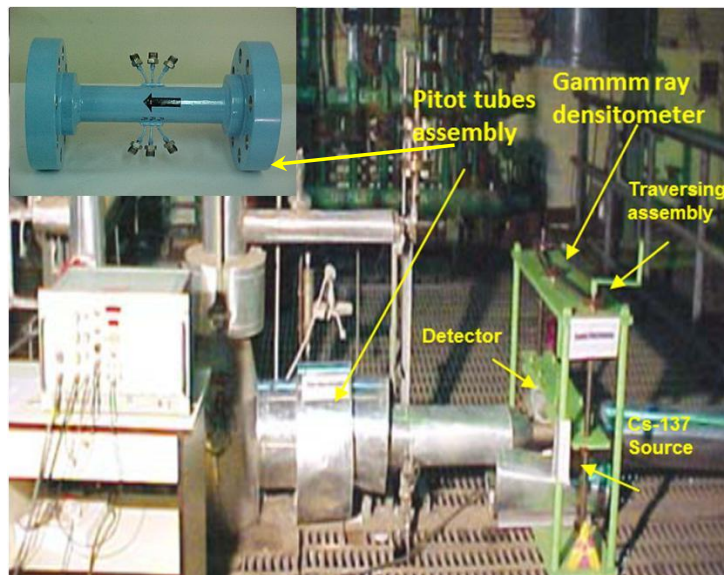


Development of sensors for Void fraction and Two Phase Flow

Achievements

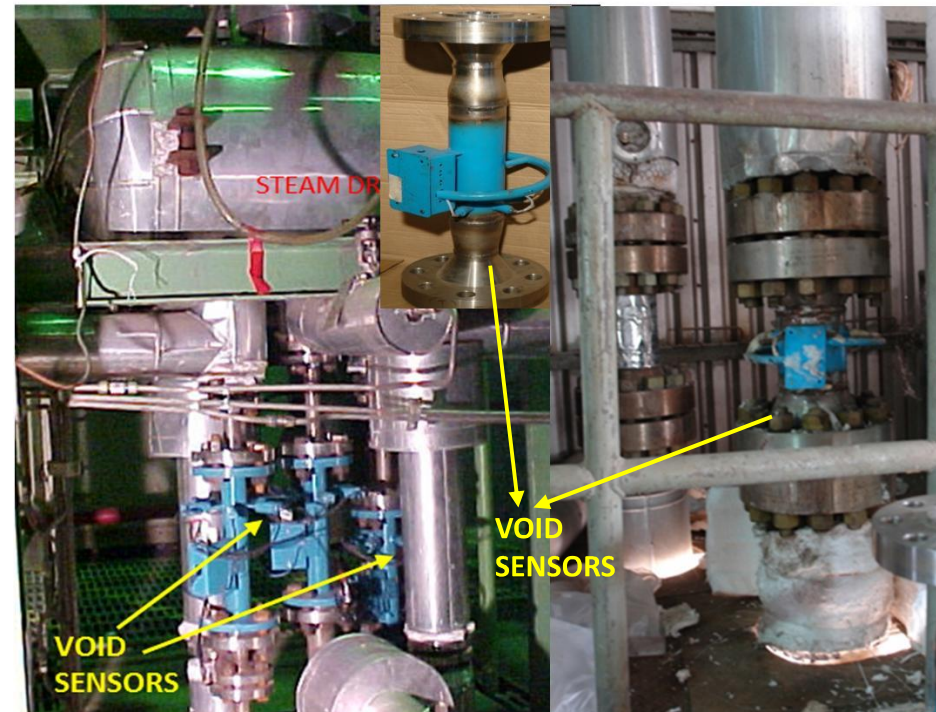
- The sensors were developed for AHWR conditions 300 °C & 100 bar pressure
- The sensor is able to predict the void fraction in a wide range of operation.
- The sensor causes no pressure drop in the system.
- The electric field which is perpendicular to the flow is rotated electronically to distribute it through out the sensor volume for better performance
- Exhaustive testing is under progress.



Pitot Tubes assembly & Gamma ray densitometer in High Pressure Natural circulation Loop

PARALLEL CHANNEL LOOP

INTEGRAL TEST LOOP



Admittance Probe Void sensors installed in PCL& ITL

The Two-phase flow measurement system has been realized by using Pitot Tubes assembly for measurement of cross section averaged two phase mass velocity and traversing Gamma ray densitometer for chordal void fraction and average mixture density measurements. The two phase mass fluxes has been computed from these parameters.