

Low cost ECT sensor electrodes design

Introduction

Electrical Capacitance Tomography (ECT) is a technique for obtaining information about the distribution of the contents of closed pipes or vessels by measuring variations in the dielectric properties of the material inside the vessel. ECT is a tomographic measurement technique which was developed during the late 1980s [5]. Successful applications of ECT include imaging liquid/gas mixture in oil pipelines and solids/gas mixtures in fluidized beds and pneumatic conveying systems [3]. For example, research conducted by Philip William and Trevor York [6] focuses on testing the ECT system with various sizes of insulating rods in air (solids/gas two phase visualization), while Oyvind Isaksen [7] implements ECT system on visualizing gas bubbles in oil (liquid/gas two phase visualization).