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# Implantable MEMS Capacitive Pressure Sensor for Intraocular Pressure Measurement

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## Abstract

This article focuses on modeling and performance analysis of microelectromechanical system (MEMS) based capacitive pressure sensor for the measurement of intraocular pressure (IOP). The normal IOP has range from 10 mmHg to 21mmHg. IOP is the important factor in the diagnosis of glaucoma. The corneal curvature of eye changes with the change in IOP. Thus IOP can be measured by measuring the variation in the corneal curvature. The capacitive IOP sensor analysis is done on different values of thickness of diaphragm with applied pressure. This article shows that if the values of thickness and radius of diaphragm change then how it will affect on the output behavior of IOP sensor. In this paper, capacitive pressure sensor measures range of pressure from 0 mmHg to 80 mmHg. This sensor consists of a poly-silicon layer which gets deflected when pressure is applied. The analysis is performed on deflection, sensitivity and capacitance changes in MEMS capacitive IOP sensor.

**Key words:** Intraocular pressure, Capacitive sensor, MEMS, Sensitvity, Thickness.