

عنوان مقاله:

Measurement of Hydrogen Concentration Using the capacitive sensor

محل انتشار:

اولین کنفرانس ملی مهندسی انرژی و نانو فناوری ایران (سال: 1395)

تعداد صفحات اصل مقاله: 9

نویسندگان:

,Ghobad Behzadi pour - Department of Physics, East Tehran Branch, Islamic Azad University, Tehran, Iran

,Leila Fekri Aval - Department of Physics, East Tehran Branch, Islamic Azad University, Tehran, Iran

خلاصه مقاله:

The metal-oxide-semiconductor sensors were fabricated on n-type Si $\langle 4\ 0\ 0 \rangle$ ($0.2\ \Omega\ \text{cm}$) substrate with oxide film thicknesses of 37, 50, 63 and 73 nm. The Nickel gate of 100 nm was deposited on the oxide film by electron gun method. Results indicate the trapped charges in the oxide film causes a shift in the VFB. The measured VFB for the oxide film thicknesses of 37 and 73 nm is 1.4 and 2.5 V, respectively. Results show, when sensors are exposed to the 4000 ppm hydrogen concentration, the response (R%) is increased when the oxide film thickness is decreased. Experimental results demonstrate that the MOS sensors are sensitive to the trapped charges in the oxide film, which can be used for response and VFB studies.

کلمات کلیدی:

.Measurement, Concentration, sensor, Hydrogen

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/960520>

