

The work presented here consists of investigating and studying the electronic properties of anodic oxide film (SiO_2). This study deals to the determination of interface states density Si/SiO_2 and the study of electronic conduction. MOS capacitors with anodic oxides (9nm) were elaborated. The anodic silica films were produced by anodization of monocrystalline silicon wafers in pure water in an electrolysis cell (P.T.F.E) at room temperature, with a constant current density of $20 \mu\text{A}/\text{cm}^2$. Film thickness increases linearly as a function of total charge during oxidation. Using $C(V)$, $G(\omega)$, $I(V)$ measurements, we have determined the interface states density, fixed charges density and conduction mechanism which is of Fowler – Nordheim type for annealed oxides at various temperatures