Introduction a The transparent conducting oxides (TCOs) are an exceptional class of semiconductors, which have ability of being transparent to visible light with a good conductivity.Therefore, in this study, we present the structural, electronic, and optical properties of SnO2 doped with fluorine (F) and chlorine (Cl) using DFT calculations.To further improve its conducting performance by doping without affecting its high transparency, a deep understanding of the effects of dopants on the physical properties of SnO2 is essential.Among the TCOs, tin dioxide (SnO2) exhibits a high chemical, mechanical, and thermal stability and low cost.These two characteristics make them attractive materials to use in various technological applications [1].