Thesis Title	A study of deep levels in Au - doped Si by Transient Current Spectroscopy Technique.
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ABSTRACT

A nano second-range current transient spectrometric system has been developed to facilitate the research works on physics of localized state in semiconductor energy band gap . The situated sample , in the form of schottky diode or p^+n diode , in a cryostat was biased by bipolar adjustable voltage pulses . The responsed current signal decay time constant was measured along with the variation of the diode temperature in the range from -150 to 100 celcius . The preliminary results on gold-doped silicon using a sample of commercial fast recovery diode revealed the hole capture cross-section (σ_p) and deep energy level (E_T-E_V) of impurity gold atom to be 1.02×10^{-16} cm^{-2} and 0.157 eV respectively , which were in the same order as the accepted standard values .