551. Title:Polarization-dependent temporal behaviour of second harmonic generation in Si/SiO2 systems

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Abstract:We report incident laser beam polarization-dependent second harmonic generation (SHG) measurements in thin oxide Si(100)/SiO2 systems. For Pin and Sin incident fundamental beams, typically strong temporal variations are observed in Pout SHG signals in these systems. We observed a critical incident polarization angle between P in and Sin in which no temporal variation exists in the Pout SHG signal. We also observed that the critical angle is independent of dopant type, concentration, oxide thickness, oxide type and internal photoemission induced interface electric field. We characterize these experimental results using the dipole radiation approximation.