Summary

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CMOS Image Sensor (CIS) is an electric Nano-sensor to detect light such as camera. We designed deep trench isolation (DTI) tilt 0.9 (µm) CIS. The incident light is plane wave which oblique by . Therefore, we shift OC&ML (Over Coat & Micro Lens) and Color Filter (CF) each as d1[nm] and d2[nm], and tilt DTI as . We Simulate the DTI tilt 0.9 (µm) CIS by FDTD (Finite-Difference Time Domain) program from Lumerical Inc. with 416 CPU Cluster. The optimum setting is d1=510 (nm), d2=230 (nm), and . The DTI tilt 0.9 (µm) CIS has better Quantum Efficiency (QE) than shift 0.9 (µm) CIS as 3%. Crosstalk (X-talk) increase, but it is under 0.1%.