

ABSTRACT

LASER-ASSISTED DEVICE ALTERATION USING SYNCHRONIZED LASER PULSES

A pulsed-laser LADA system is provided, which utilizes temporal resolution to enhance spatial resolution. The system is capable of resolving CMOS pairs within the illumination spot using synchronization of laser pulses with the DUT clock. The system can be implemented using laser wavelength having photon energy above the silicon bandgap so as to perform single- photon LADA or wavelength having photon energy below the silicon bandgap so as to generate two-photon LADA. The timing of the laser pulses can be adjusted using two feedback loops tied to the clock signal of an ATE, or by adjusting the ATE's clock signal with reference to a fixed- pulse laser source.

Figure 3