TUNING OF I-V CHARACTERISTICS OF HYBRID INORGANIC-ORGANIC p-Si/ La_{0.7}Sr_{0.3}MnO_3/CuPc/Au HETEROSTRUCTURE UNDER EXTERNAL PERTURBATIONS OF LIGHT AND MAGNETIC FIELD

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We investigated the p-Si/La_{0.7}Sr_{0.3}MnO_3/CuPc/Au hybrid heterostructure under red light and magnetic field. Under dark condition, it displayed a nonlinear, irreversible I-V curve, likely due to the Schottky nature of the LSMO/CuPc heterojunction. The device exhibited positive MR, which may arise from increased spin-dependent scattering at the LSMO depletion region. Increase in light intensity likely boosted exciton generation and dissociation at the LSMO/CuPc interface, enhancing photocurrent through the device.