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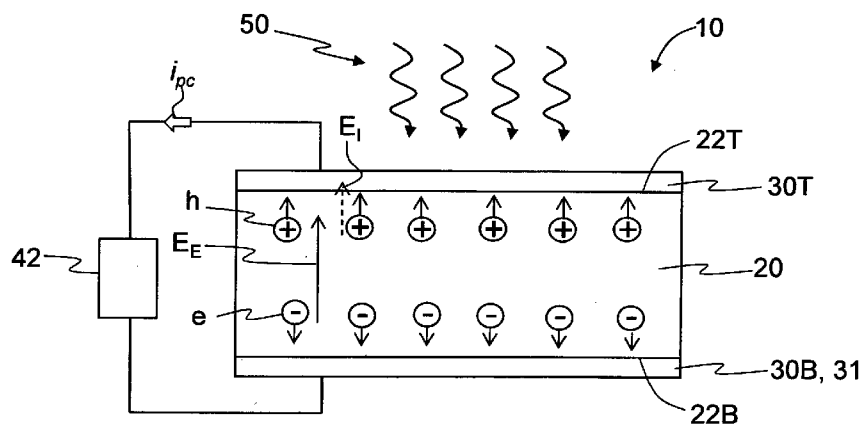
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(54) Title: PHOTOVOLTAIC CELL WITH GRAPHENE-FERROELECTRIC ELECTRODE



(57) **Abstract:** A photovoltaic cell (10) is disclosed that includes an active layer (20) sandwiched by top and bottom graphene-ferroelectric electrodes (30T, 30B) each having a graphene layer (32) and a polarized ferroelectric layer (34). The polarized ferroelectric layer defines an internal electric field (EI). Light (50) irradiates the active layer through the top graphene-ferroelectric electrode, causing the generation in the active layer of electrons (e) and holes (h) as charge carriers. The internal electric field causes the electrons and holes to move towards opposite electrodes, giving rise to a photocurrent (ipc), while also mitigating undesirable charge-carrier recombination.