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THE PROTOTYPE TESTING OF AN IR PHOTONIC TYPE HLS

A simplified hydrolic levelling system (HLS) developing project has been carried out to monitor the ground settlement of TPS tunnel within 10 um resolution. An IR photonic type prototype was proposed to meet the requirement. This prototype consists of simple circuits with separated IR led and phototransistor to sense the water surface variation through glass window. A series of tests had been performed to examine the measurement range, linearity, resolution, etc., through different led and phototransistor. With the testing results, an improved model will be design for further testing and perhaps manufacturing. This paper presents the prototype design concept and testing results.

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