

Design and Construction of Computerized Intensity Detection System for Angular Distribution of Light

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Abstrak

A computerized intensity detection system has been designed and constructed using single board TK-85 microprocessor system. Two types of hardware architectures, Address Mapped and Memory Mapped Input-Output systems are utilized as Input module from light detector and Output module to X-Y recorder, respectively. A performance test on the computer system has shown that the system hardware and software function properly with consistent gain -of 1.360. An educational grating- used for the overall performance test has also indicated instrumental accuracy consistent with design limitation. A preliminary application of this system in light scattering experiment has exhibited qualitative features in the angular distribution of the scattered light intensity which are consistent with theoretical prediction.