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Measurement of basic static characteristics (I-V, C-V) of silicon detectors

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The use of microstrip detectors in creating coordinate track systems for HEP experiments with high geometric efficiency (~100%), a large number of strips (measuring channels) over 10^6 and accuracy a/√12 (a-pitch)requires careful preliminary selection of detectors by main parameters. The main static parameters of silicon microstrip detectors include the following:I-V characteristic determines the amount of dark leakage current of a silicon detector.C-V characteristic allows you to define the full depletion voltage and the value of the capacitance of both the strip and detector. Modern systems for testing and selection of microstrip detectors make it possible in the possible in the automated mode to identify strips with high dark currents, possible short circuits and breaks in interstrip metallization.

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