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"The most recent spectroscopic results obtained from the large area Silicon Drift Detector SDD realized in the frames of the Internal Tracking System of the LHC-ALICE experiment will be presented. This SDD detector results from detailed progressive optimization devoted high stability and reliability, simple use and high production yield. Featuring a thickness of 300 microns and a total sensitive area of about 7 x 7 cm **2, the detector is read out by 2 x 256 anodes. Implanted high voltage dividers and drift speed calibration injectors allow a very reliable on line control of the performances. As a? tracking device this detector can localize with a precision better than 30 micron in the two coordinates the impact point of the minimum ionizing particle, in a high multiplicity environment, without ambiguities. In this study the detector has been provided with low noise readout electronics and its spectroscopic characteristics have been studied as a function of temperature. We present detailed results on the spectroscopic characteristics of this SDD detector for low energy x-rays."