

Onderwerp	Correlation between the noise of an image sensor measurement system and the measured specification of an image sensor.
Beschrijving	<p>Caeleste is a manufacturer of image sensors. To characterize these sensors, an internal generic image sensor readout system was created. During characterization, one checks whether the sensor works properly and achieves its specifications. Before this generic test system is commissioned, the system itself needs to be measured out. A critical factor of this system is the modular power supplies and, more specifically, their noise. The student starts by thoroughly measuring the noise of these power supplies in all possible conditions such as changing temperature and supply voltage. A thorough build-up of knowledge around noise is acquired. It is expected to write Python software to run these tests in a semi-automatic fashion. The noise specification of the readout system is determined from these measurements and documented in the datasheet.</p> <p>The student then uses this system to measure an image sensor. A PCB will be designed in Altium designer to add an imposed amount of noise to the power supply of the image sensor. The relevant specifications are measured to see when the image sensor is affected by the added noise. This should be discussed with the image sensor designers in order to optimize the design strategy of the image sensor.</p> <p>On the basis of these two components, critical insight can be gained into where improvements can still be made to both the power supplies of the generic measurement system and the design strategy of image sensors in terms of noise behavior.</p>
Aantal studenten	1
Profiel student	Elektronica-ICT
Doelstellingen	Gain critical insight into the noise behavior of the power supplies of the generic readout system as well as the influence of noise on the power supplies of image sensors.
Over Caeleste	<p>Caeleste is a proud group of engineers, scientists & enthusiasts who create innovative CMOS image sensor solutions. We go to great lengths to create unique & beyond state-of-the-art solutions that allow our customers to stand out in their field. From our Belgian office, we work with world-class multinational companies shaping the market in space, scientific, medical, industrial and life science applications. With in-house expertise in high-speed, sub-electron noise, ultra-high dynamic range and extreme radiation-hard designs, Caeleste ensures an end-to-end quality focus on the entire product flow. At Caeleste, fun goes hand in hand with our pride.</p>