

<b>Patent title:</b>	<b>Circuit architecture of an improved pixel for detecting and calculating the number of photons</b>
<b>FBK center:</b>	CMM
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<b>Application(s):</b>	Scientific and/or medical applications
<b>Keyword(s):</b>	Detecting and counting photons
<b>Abstract:</b>	The invention is a pixel (1) for detecting photons, of the type comprising: a photodiode (2) having a first contact terminal (21) connected to the first contact terminal (31) of first electronic interruption means (3) and the second contact terminal (22) connected to a first input pin (11) of the pixel (1); the first electronic interruption means (3) having the switch over control terminal (33) connected to a second input pin (12) and the second contact terminal (32) connected to a third input pin (13); second electronic interruption means (4) having the first contact terminal (41) connected to a first charge accumulation element (101), the second contact terminal (42) connected to the first contact terminal (21) and the switch over control terminal (43) connected to a fourth input pin (14); third electronic interruption means (5) having the first contact terminal (51) connected to a fifth input pin (15) and the switch over control terminal (53) connected to the first charge accumulation element (101); fourth electronic interruption means (6) having the first contact terminal (61) connected to a third charge accumulation element (103) and to an output pin (10), the second contact terminal (62) connected to the first contact terminal (71) of fifth electronic interruption means (7) and to a second charge accumulation element (102) and the switch over control terminal (63) connected to the second contact terminal (52) of the third electronic interruption means (5); the fifth electronic interruption means (7) having the second contact terminal (72) connected to a sixth input pin (16) and the switch over control terminal (73) connected to a seventh input pin (17).