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(57) Abstract :

Embodiments of the present disclosure relates to a system (100) and method (300) for applying advanced computational pixel imagers with multiple in-pixel counters for high-precision imaging. The system (102) comprises a processor (202) coupled to a memory (204). The memory (204) stores processor-executable instructions. The processor (202) is configured to capture an incident light. Next, the processor (202) is configured to convert the incident light into an electrical signal proportional to an intensity of the incident light. Thereafter, the processor (202) is configured to expand the electrical signal to obtain spectral information by using in-pixel counters. In the end, the processor (202) is configured to digitize the spectral information for high-precision image reconstruction and analysis.

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