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(57) Abstract :
The present disclosure relates generally to field of imaging devices and techniques. More specifically the present invention relates to a dynamic scrolling imaging apparatus for capturing high-quality images in a single-pass imaging process. The apparatus (100) includes an imaging element (102), a plurality of sensors (104), a scrolling mechanism (106), a feedback unit (108) and a processor (110). The scrolling mechanism (106) is provided for moving the sensor (104) relative to the imaging element (102) in a continuous scrolling motion. The feedback unit (108) is provided for adjusting the scrolling speed of the sensor (104) in response to variations in the scene being captured. Advantageously, the present invention relates to a dynamic scrolling imaging apparatus for capturing high-quality images with enhanced resolution, contrast, and exposure range in a single-pass imaging process. The invention has potential applications in fields such as photography, video, surveillance, medical imaging, and scientific research.

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