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(71) Applicant (for all designated States except US): **UNIVERSITY OF FLORIDA RESEARCH FOUNDATION, INC.** [US/US]; 223 Grinter Hall, Gainesville, FL 32611 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **SO, Franky** [US/US]; 5014 N.w. 60th Terrace, Gainesville, FL 32653 (US). **KIM, Do, Young** [KR/US]; 4000 N.W. 51st Street, #136, Gainesville, FL 32653 (US).

(74) Agents: **PARKER, James, S.** et al.; Saliwanchik, Lloyd & Saliwanchik, P.O. Box 142950, Gainesville, FL 32614-2950 (US).

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(54) Title: METHOD AND APPARATUS FOR SENSING INFRARED RADIATION

(57) Abstract: Embodiments of the invention pertain to a method and apparatus for sensing infrared (IR) radiation. In a specific embodiment, a night vision device can be fabricated by depositing a few layers of organic thin films. Embodiments of the subject device can operate at voltages in the range of 10-15 Volts and have lower manufacturing costs compared to conventional night vision devices. Embodiments of the device can incorporate an organic phototransistor in series with an organic light emitting device. In a specific embodiment, all electrodes are transparent to infrared light. An IR sensing layer can be incorporated with an OLED to provide IR-to-visible color up-conversion. Improved dark current characteristics can be achieved by incorporating a poor hole transport layer material as part of the IR sensing layer.



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