



Polymer Shutter For Infrared Detection Systems

Tech ID: 19818 / UC Case 2009-261-0

BRIEF DESCRIPTION

Electrically driven polymer-based shutter for infrared detectors.

BACKGROUND

In infrared detection systems, a shutter device provides for the signal to be blocked at intermittent intervals to create "on" and "off" states. Unfortunately, conventional mechanical shutters are large in size, require high power to operate, and suffer from slow speed of operation. These devices are not easily integrated in battery-operated, miniaturized detector systems with low operating power requirements and minimal size and weight.

DESCRIPTION

Researchers at the University of California, Santa Barbara have developed an electrically driven polymer-based shutter for infrared detectors. The invention uses an electrically driven polymer shutter to achieve on and off states and is designed to replace mechanical shutters in current IR detector systems for both calibration and imaging purposes

ADVANTAGES

- ▶ Reduction in cost, weight, size of infrared detectors
- ▶ Less mechanically fragile and consumes less power

APPLICATIONS

- ▶ Integration with infrared detectors for a wide range of military uses
- ▶ Civilian applications in automobiles, trucks, and airplanes
- ▶ Search-and-rescue and fire-fighting operations
- ▶ Agricultural and water resource and productivity assessment and monitoring
- ▶ Homeland security
- ▶ Aerospace and satellite applications
- ▶ Advanced medical diagnosis

This technology is available for licensing.

PATENT STATUS

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OTHER INFORMATION

KEYWORDS

Infrared Detection, indinfrared

CATEGORIZED AS

- ▶ **Engineering**
- ▶ **Environment**
 - ▶ Other
- ▶ **Security and Defense**
 - ▶ Other
- ▶ **Transportation**
 - ▶ Other

RELATED CASES

2009-261-0, 2009-745-1

Country	Type	Number	Dated	Case
United States Of America	Issued Patent	8,094,361	01/10/2012	2009-261

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