-

The Office of Technology Management

UNIVERSITY OF TEXAS ARLINGTON

Tech ID: UTA 13-16

Luminescence Electronic Devices using Lanthanum-Yttrium Oxides

Inventor: Wei Chen

TECHNOLOGY NEED

Specialists in the field of luminescence devices demand higher and better luminescence power, precision, intensity, resolution and sensitivity. However, these improvements come with higher instabilities and cost. This creates a need for more affordable and stable luminescence electronic devices such as medical devices, medical imaging, radiation detection devices or even TV monitors. Addressing these needs would result to a more precise and accurate medical and radiation detection diagnostic devices.

INVENTION DESCRIPTION/SOLUTION

Researchers at UTA have discovered a novel technology that utilizes the scintillation luminescence properties contained in lanthanum-Yttrium oxides (LaYO3). It is used to detect radiations such as alpha, gamma beta, neutron, cosmic ray or any high energy particles. The parent oxides also come with excellent luminescence power that can be implemented in medical imaging such as X-ray intensifier, detectors for computed Tomography (CT), position-emission tomography (PET) and computed radiography (CR). These scintillators are chemically stable and cheap to make, therefore the implementation of LaYO3 in luminescence electronic devices can help resolve the problem of cost and instability.

APPLICATION

- Radiation detection
- X-ray scanning
- CT scanning
- PET scanning
- CR scanning
- TV display
- Computer display

KEY BENEFITS

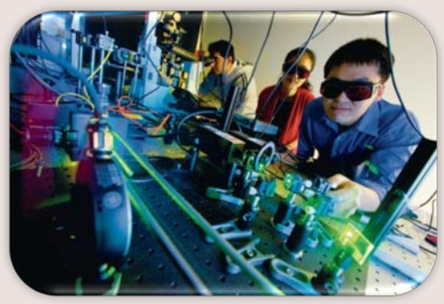
- Excellent scintillation properties
- Excellent luminescence properties
- High thermal conductivity
- Broad transparency range
- High chemical stability
- Low manufacturing cost

STAGE OF DEVELOPMENT

Prototyped and tested

INTELLECTUAL PROPERTY STATUS

US Patent No.: US 9739897 B2



About the Inventor:
Wei Chen

Contact information
For licensing, please contact
Sharon Ngwenya, Ph.D.
sngwenya@uta.edu
otm@uta.edu
P: 817.272.1130

Our mailing Address:
The Office of Technology Management
701 S Nedderman drive, Suite 350,
Arlington, TX 76019

Connect with us: