The Office of Technology Management

UNIVERSITY OF TEXAS ARLINGTON

Tech ID: UTA 10:13

Multilevel Leaky-Mode Resonant Optical Devices

INVENTORS: Robert Magnusson, Mehrdad Shokooh-Saremi

TECHNOLOGY NEED

Multilayer thin films are widely applied to implement filters, polarizers, and reflectors for incorporation in various common optical systems. In many cases, a large number of layers, perhaps 10-100, may be needed to create the spectral, polarization, and angular attributes required for a particular application. Currently, available multilayer thin films have limited spectral bands.

INVENTION DESCRIPTION/SOLUTION

Efficient reflection of light across wide spectral bands is essential in a plethora of common photonic systems. UTA researchers have developed a multilevel leaky-mode resonant element with large bandwidth capabilities. It was shown that for infrared applications, a bandwidth of 600 nanometers or greater can be obtained. The inverse numerical methods for the design of such multilayer thin films was also developed.

APPLICATIONS

- Thin-film technology
- Liquid crystal display
- Photography
- Reflectors
- Polarizers
- Beam splitters

KEY BENEFITS

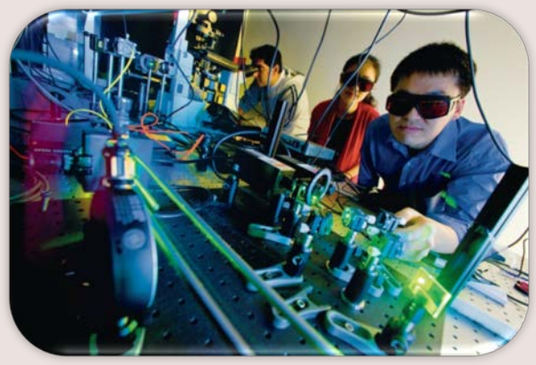
- Save materials
- Large spectral bands

STAGE OF DEVELOPMENT

Preliminary Design

INTELLECTUAL PROPERTY STATUS

Patent Pending



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