

The Office of Technology Management

UNIVERSITY OF TEXAS  ARLINGTON

Tech ID: UTA 15-48

Ultra-sparse dielectric resonant polarizers

INVENTOR: Dr. Robert Magnusson

TECHNOLOGY NEED

Polarizers are the most common components in modern optical sensors, imaging systems, lasers and display technologies. The current state of art utilizes nano grid polarizers which have good polarization performance and its planar structure helps in integrating to thin-film photonic devices. But these are lossy in nature and do not polarize in both reflection and transmission. This provides an avenue for unmet need.

INVENTION DESCRIPTION/SOLUTION

UTA researchers have designed a new class of polarizers with dielectric nanowire or low-loss semiconductors that are mostly free space. These polarizers deliver an unmatched combination of high power performance, high efficiency, high extinction ratio, and lossless in wide spectral bands. The novel polarizer acts as a good polarizer in reflection, transmission, or both and works best in systematic environment. The fabrication process of the novel polarizer is very simple and feasible, and can be practically made with all material.

APPLICATION

- Imaging systems
- Optical sensors
- Display technologies
- Laser Processing

KEY BENEFITS

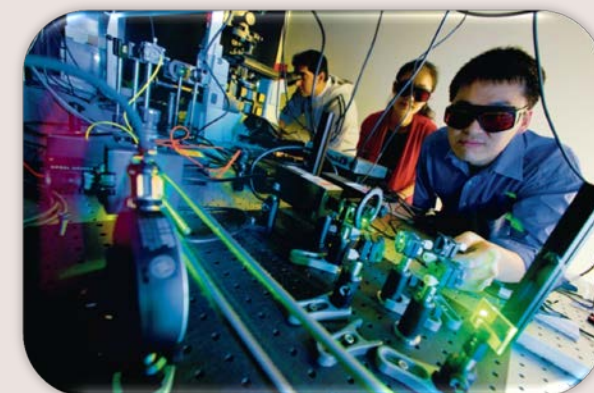
- Lossless
- High performance
- High extinction ratio
- Easy fabrication
- Robust in angle

STAGE OF DEVELOPMENT

Prototyped and Tested

PUBLICATIONS

[Ultra-sparse dielectric nanowire grids as wideband reflectors and polarizers](#)



More about the Inventor:
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