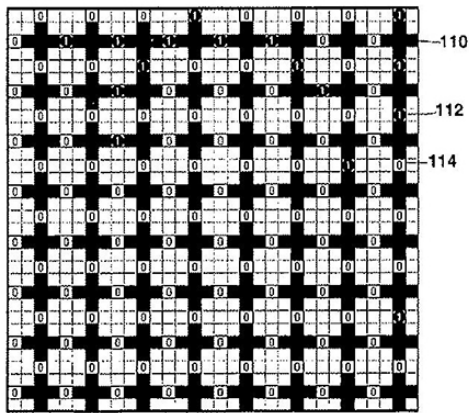


Remote Sensing of Chemical and Biological Agents

ID# 2003-2855



PennState



FSS Geometry w/ Stop Bands @ 8THz & 4THz

Technology Summary

This invention describes a Reconfigurable FSS (RFSS) that has “cells” embedded in the pattern that are made up of chemoresistive materials that cause the electrical conductivity of the “cell” to change in the presence of a chemical or biological analyte. The change in electrical conductivity is correlated with a change in an external condition of the cell, such as the binding of a chemical agent to the cell. The FSS electromagnetic properties change in the presence of the analyte, and the analyte can be detected by remote interrogation of the RFSS.

Application & Market Utility

Electrical detection of the presence of chemical or biological agents. The RFSS device can be remotely monitored for detection. Multiple analyte detection cells can be included on a single substrate. Electromagnetic response of the RFSS can be tailored to specific needs. Provides safe “stand-off” detection of dangerous analytes. May be used covertly to detect analytes.

Next Steps

Seeking research collaboration and licensing opportunities.

TECHNOLOGY READINESS LEVEL

1-3

Seeking

Investment | Licensing | Research

Keywords

- biological detection
- frequency selective surface
- FSS
- electromagnetic band gap
- remote sensing

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