Docket #: S05-135

High sensitivity fiber-compatible all-optical acoustic sensor

An acoustic sensor includes at least one photonic crystal structure having at least one optical resonance with a resonance frequency and a resonance lineshape. The acoustic sensor further includes a housing mechanically coupled to the at least one photonic crystal structure. At least one of the resonance frequency and the resonance lineshape is responsive to acoustic waves incident upon the housing.

This technology is available for licensing through Stanford's exclusive licensee. Please contact Dennis Fortner at: Dennis.Fortner@ngc.com for more information.

Applications

- oil exploration
- undersea acoustic wave detection.

Advantages

- Our device can overcome the limitation of "operation frequency" of currently used fiber-based acoustic sensors. It is also much more compact, and can be easily integrated into arrays.

Patents

- Published Application: 20070081165
- Published Application: WO2006119200
- Published Application: 20090208163
- Published Application: 20110041616

- Published Application: 20120186353
- Issued: 7,526,148 (USA)
- Issued: 7,809,219 (USA)
- Issued: 8,160,406 (USA)
- Issued: 8,331,741 (USA)

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