

Applied Physics

August 23-24, 2018 | London, UK

Prospects for fibre-optic underwater sensing networks


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Fibreoptic sensors for underwater applications have been developed for nearly 50 years mainly by the military. High precision designs have now been deployed in seismic underwater Oil & Gas, Defence and Climate Change applications. This talk gives a brief review of fibreoptic sensing technology in the underwater Oil & Gas, Defence and Climate Change applications. It highlights multiplexing of large-scale fibreoptic sensors up to a few thousands, current challenges, and future prospects for the technology.

Speaker Biography

Jolyon De Freitas is an optical engineer with over 25 years experience in high precision interferometry, optical metrology and fibre-optic sensing. He was involved in the design, development and high precision measurement of the optical homogeneity of gyroscope blanks for the readout system of the Stanford University/NASA Gravity Probe B satellite test of Einstein's General Theory of Relativity. He has worked both in academia as a lecturer in physics and as an optical specialist in the defence industry with QinetiQ and Atlas Elektronik UK. He has 8 patents and 25 peer-reviewed articles. He holds a PhD in Optical Metrology from Aberdeen University, Scotland.

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