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## **Light propagation mechanism switching in a liquid crystal infiltrated microstructured polymer optical fibre**

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### Abstract:

In this work studies on propagation properties of a microstructured polymer optical fibre infiltrated with a nematic liquid crystal are presented. Specifically, the influence of an infiltration method on the LC molecular alignment inside fibre air-channels and, thus, on light guidance is discussed. Switching between propagation mechanisms, namely the transition from modified total internal reflection (mTIR) to the photonic bandgap effect obtained by varying external temperature is also demonstrated.