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(57) Abstract :

The present invention discloses a process for fabricating tunable micro air cavity comprising the steps of involving a Hollow-Core Photonic Crystal Fiber (HCPCF) of predefined length and a single-mode fiber, splicing the SMF with the HCPCF by arc welding based splicer to form the micro air cavity at the junction of the spliced SMF and the HCPCF, tuning size of the micro-cavity by heating the junction of the spliced SMF and the HCPCF using one or more extra welding arcs to change horizontal and vertical lengths of the micro air cavity and providing choice based cavity dimensions depending upon requirement.

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