

Abstract Submitted
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Porous Resonators for Chemical Sensing STEVEN NOYCE, ROBERT DAVIS, RICHARD VANFLEET, Brigham Young University — Porous resonators have the potential to overcome limitations in the micro-resonator field. For example, such structures are potentially capable of higher detection limits than solid resonators when used as sensors, due to their immensely larger surface area. We present a versatile micro-resonator fabrication process in which carbon nanotubes are grown from a patterned catalyst, after which the space between the tubes is filled to various degrees of porosity with carbon through Chemical Vapor Deposition. We present characterizations of this novel material, along with frequency shift data showing a surprising trend that opens the door to many future explorations.

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