Porous Resonators for Chemical Detection

STEVEN NOYCE, ROBERT DAVIS, RICHARD VANFLEET, Brigham Young University — Porous resonators offer many advantages in the field of chemical detection, but have traditionally proved difficult to fabricate. Such resonators have an exceptionally higher surface area than corresponding solid resonators, allowing a much higher adsorbate mass which does not proportionally decrease with larger cantilever dimensions. This allows for larger devices, leading to higher quality factors in more diverse environments. Here we present initial work on the fabrication and characterization of porous resonators.