

Abstract Submitted  
for the MAR06 Meeting of  
The American Physical Society

**Q-factor spoiling of a fused silica microsphere** PABLO BIANUCCI, JOHN ROBERTSON, ANDREAS MULLER, C. K. SHIH, The University of Texas at Austin — When a planar transparent surface is brought close to a microsphere resonator, the induced leakage will result in a decrease of the Q-factor of the resonant modes. We present a systematic study of the Q-factor spoiling on a fused silica microsphere using a tapered optical fiber as a waveguide and a cleaved fiber as a planar surface. The Q-spoiling is measured as function of the distance between the microsphere and the cleaved fiber. Different modes show quite different deterioration rate for the Q-value as a function of sphere-fiber distance. This Q-decay rate is directly related to the evanescent nature of the cavity modes.

Pablo Bianucci  
The University of Texas at Austin

Date submitted: 30 Nov 2005

Electronic form version 1.4