**Dispersion Forces and Boundary Effects on Spontaneous Emission Rates of a Harmonic Oscillator** FELIPE DA ROSA, Los Alamos National Laboratory, TARCIRO MENDES, Universidade Federal do Rio Grande do Norte, ANDRE TENORIO, Centro Brasileiro de Pesquisas Fisicas, CARLOS FARINA, Universidade Federal do Rio de Janeiro — We consider the interaction between a small system modeled by a simple harmonic oscillator (SHO) with a wedge constituted by two semi-infinite perfectly conducting plates and also with a perfect conducting cyllinder. Using a formalism based on a master equation, we compute the van der Waals force on the SHO and also the spontaneous emission rates, for zero and nonzero temperatures. We then discuss some of the consequences of our results and also possible extensions for this work.

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Date submitted: 23 Jan 2009                    Electronic form version 1.4