

**Steve
Lamoreaux**

Yale University



Nature Adorns a Vacuum

The Casimir Force

Department of Physics Colloquium



WISCONSIN

In 1948, Hendrik Casimir showed that two perfectly conducting parallel plates will be mutually attracted. This attraction is due to the modification of the the electromagnetic field mode structure between the plates, which leads to a change in the zero point energy of the field. It has only been within the last 15 years that this force has been measured to good precision, and recently the effect of finite temperature (300 K) has been measured, for the first time, in our laboratory at Yale. The notion that boundaries can affect the zero point energy of a system has broad application throughout physics, and some applications will be discussed, along with an overview of our experimental work.