



DIPARTIMENTO DI FISICA "E.Fermi"
UNIVERSITÀ DI PISA
CORSO DI DOTTORATO IN FISICA
Largo B.Pontecorvo,3 - Edificio B-C
56127 PISA - ITALY

CORSO DI DOTTORATO IN FISICA **AVVISO DI SEMINARIO**

Venerdi 29 luglio 2008
ore 15:00

Dipartimento di Fisica
Largo B.Pontecorvo, 3
Sala 248 - I piano - Ed. C

Prof. Howard Lee
Dept. of Physics - Univ. of Georgia
Athens - USA

"BIRKHOFF'S THEOREM AND ERGOMETER: MEETING OF TWO CULTURES"

Abstract: Statistical mechanics considers Boltzmann's ergodic hypothesis one of its foundations. But is the hypothesis really valid? If so, how widely? Is there a way one could measure it?

In 1931 G D Birkhoff, a noted mathematician, gave a theorem which is said to prove the hypothesis under certain terms. But they are so abstract that it is difficult for most physicists to know whether the hypothesis is or is not of limited validity.

In 2001 I developed a physical theory, which gives an ergodic condition, now dubbed an ergometer. It can tell whether a system is ergodic and why so. This gedanken device is put to work on Birkhoff's theorem, therewith making it reveal the domain of validity of the hypothesis.*

*Based on an article by the speaker, "Birkhoff's theorem, many-body response function and the ergodic condition," Phys Rev Lett 16 March 2007

G.Grosso