SEMINARIO MATEMATICA

Giovedì 20 giugno 2013
ore 16:00

Scuola Normale Superiore
Pisa
Aula Mancini

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(SNS)

Terrà un seminario dal titolo:

"Logarithms of Algebraic Numbers"

Abstract:
In my talk, I will discuss a variation of a method developed (by P. Débes and Y. André) in the context of G-functions. To be precise, this variation yields transcendence measures related with the one-dimensional multiplicative torus G_m. Up to now, using the same method the transcendence of G-function values has been only obtained in a few cases (Y. André, "G-fonctions et transcendence", Crelle 1996) closely related with the modular curve X(2) and the associated hypergeometric functions. In the talk, I present my humble effort to translate a part of André's work to the multiplicative torus G_m, obtaining various transcendence measures for logarithms.
It turns out that the analogue of André's proof is closely related to the classical proofs of certain transcendence measures of logarithms, the most prominent of which is the one given by K. Mahler ("On the approximation of logarithms of algebraic numbers", 1952). In fact, Padé approximations to the logarithm (and its multiples) play a major role. However, the Padé approximations used in the approach presented comes not from any ingenious adhoc inspection but straight from Siegel's lemma. An additional difference is the fact that I have to work with Padé approximations to the logarithm at a certain (varying) set of roots of unity instead of the unity (= 1) of G_m itself.

Tutti gli interessati sono invitati a partecipare.
Classe di Scienze