COLLOQUIA

Viernes, 27 de octubre de 2017.

Walter Van Assche (KU Leuven, BELGIUM)

Number Theory meets Approximation Theory

Abstract:
It is known that most real numbers are irrational and even transcendental, but if one singles out a particular real number, then it is not easy to show that it is irrational or transcendental. Usually this is done with a proof by contradiction, but there is a constructive way that uses approximation theory. Most of the famous mathematical constants, such as e and π, can be shown to be irrational by approximating them by rational numbers, but in such a way that the approximation is better than what would be possible for a rational number. The approximation can be polynomial approximation but most often it is rational approximation. Historically this was done using continued fractions, but Hermite proved the transcendence of e using Hermite-Padé approximants. I will give some more examples of this approach, in particular the zeta function evaluated at odd integers and its q-anolog. The method also gives upper bounds for the measure of approximation.

Univ. Carlos III de Madrid

Coordenadas

Hora 11:00 - 12:00
Lugar Seminario del Departamento de Matemáticas
2.2 D08 Edificio Sabatini.

Dirección

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