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Seminar

The dimension spectrum of infinitely generated conformal dynamical systems

Professor Vasileios Chousionis
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Abstract

The dimension spectrum of an iterated function system is the set of all possible values of the Hausdorff dimension of its subsystems. We perform a comprehensive study of the dimension spectrum of general conformal graph directed Markov systems modeled by countable state symbolic subshifts of finite type. As a corollary we show that the dimension spectrum of infinite conformal iterated function systems is compact and perfect. On the way we revisit the role of the parameter θ in graph directed Markov systems and we show that new phenomena arise. Finally we show that the system resulting from the complex continued fractions algorithm has full dimension spectrum. We thus give a positive answer to the Texan conjecture for complex continued fractions. Our proofs depend on new topological pressure estimates for subsystems in the abstract setting of symbolic dynamics with countable alphabets. Based on joint work with Dmitriy Leykekhman (UConn) and M. Urbanski (UNT).

Date: 9 March 2018 (Friday)
Time: 11:00am – 12:00noon
Venue: Room 222, Lady Shaw Building,
The Chinese University of Hong Kong, Shatin

All are Welcome