Dimension of limit sets of Iterated Function Schemes and applications to Lagrange and Markov spectra

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Calculating the Hausdorff dimension of limit sets of iterated function schemes on an interval is a classical problem, which can be approached using dynamical techniques, such as thermodynamic pressure. We will describe an approach to this problem which, in turn, leads to improved estimates relating to the the Lagrange and Markov spectra in Number Theory. This is joint work with Carlos Matheus, Carlos (Gugu) Moreira and Polina Vytnova.