

# Linear Programming, Dynamical Systems and Integral Geometry

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Interior point methods of linear programming theory are perceived to be much more efficient in practice than has been predicted theoretically. These methods shadow the central path of the problem by a piecewise linear path. In this talk we construct a dynamical systems model of the central paths, which suggest that they may be fairly straight, which might explain why they are easy to shadow. We prove that they are fairly straight at least on the average using techniques of integral geometry. This is joint work with Jean-Pierre Dedieu and Gregorio Malajovich.

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