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Piecewise linear approximation of absolutely continuous invariant measures for random maps

Fixed points of Frobenius–Perron Operators for random maps are the probability density functions of absolutely continuous invariant measures for the random maps. The Frobenius–Perron equation is a functional equation and solving this equation explicitly is possible only in very simple cases. In this talk we describe a method of approximating fixed point of the Frobenius–Perron Operator for random maps. We prove the convergence of our piecewise linear approximation method.