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Hiroki Sumi* (sumi@math.sci.osaka-u.ac.jp), 1-1, Machikaneyama, Toyonaka, Osaka
560-0043, Japan. *Complex Analogues of the Takagi Functions in Random Complex Dynamics.*

We consider random dynamical systems of holomorphic maps on the Riemann sphere. We study the function T of probability of tending to one minimal set. We show that under a generic condition, T is continuous on the Riemann sphere. Also, we show if the system is generated by finitely many holomorphic maps, T is real analytic with respect to the probability parameter. Under certain conditions, T is a complex analogue of the Lebesgue's singular functions or the devil's staircase, and the partial derivative C of T with respect to the probability parameter is a complex analogue of the Takagi function, which is continuous but nowhere differentiable on $[0,1]$. Namely, these functions T and C are continuous on the Riemann sphere and varies precisely on the Julia set of the associated semigroup of holomorphic maps, which is a thin fractal set. References: [1] J. Jaerisch and H. Sumi, Multifractal formalism for expanding rational semigroups and random complex dynamical systems, *Nonlinearity* 28 (2015) 2913-2938. [2] H. Sumi, Random complex dynamics and semigroups of holomorphic maps, *Proc. London Math. Soc.* (2011) 102(1), 50–112. [3] H. Sumi, Cooperation principle, stability and bifurcation in random complex dynamics, *Adv. Math.*, 245 (2013) 137–181. (Received August 03, 2015)