Title: A two-dimensional Gauss–Kuzmin theorem for N-continued fraction expansions

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A two-dimensional Gauss–Kuzmin theorem for N-continued fraction expansions is shown. More precisely, we obtain a Gauss–Kuzmin theorem related to the natural extension of the measure-theoretical dynamical system associated to these expansions. Then, using characteristic properties of the transition operator associated with the random system with complete connections underlying N-continued fractions on the Banach space of complex-valued functions of bounded variation, we derive explicit lower and upper bounds for the convergence rate of the distribution function to its limit.

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