A speech encryption using fractional chaotic systems

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Abstract

In this paper, a new speech encryption using fractional chaotic systems is presented. A two-channel transmission method is used where the original speech
is encoded using a nonlinear function of the chaotic states. Conditions for synchronization between fractional chaotic systems through one variable have been
investigated theoretically by using the Laplace transform. The keys, key space, key selection rules, and sensitivity to keys are discussed in detail. Results show that the original speech is well masked in the ciphertexts yet recovered faithfully and efficiently by the present schemes.

Keyword：Speech encryption‧Fractional chaotic