DETERMINISTIC SEQUENCES DESTROY CF-NORMALITY (CF STANDS FOR CONTINUED FRACTION)

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Abstract： In 1949 D.D. Wall showed that if $0.x_1x_2x_3...$ is a normal number then $0.x_2x_4x_6...$ and $0.x_1x_4x_7...$ etc. is also a normal number. In other words, arithmetic progressions **preserve normality**. Later, in the 70's T. Kamae and B. Weiss showed that a sequence preserves normality if and only if it is deterministic (has subexponential complexity). Next, in 2016, Heersink and Vandehey showed that if $[0;a_1,a_2,a_3...]$ is a CF-normal number (in the continued fraction expansion) then neither $[0;a_2,a_4,a_6...]$ nor $[0;a_1,a_4,a_7...]$ nor etc. is **never CF-normal**. In other words, arithmetic progressions **destroy CF-normality**. Last year, with Adam Abrams we showed that all deterministic sequences destroy CF-normality. Moreover, they destroy \mu-normality for any measure \mu with completely positive entropy (CPE).