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Topological stability of averagings

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Data averaging is one of the principal instruments in many branches of science. In particular, averaging is used in computer graphics and digitizing of analog signals. One can observe that for not highly oscillating continuous signals the averaging "*preserves*" the forms of the initial signal provided that the averaging interval is sufficiently small. More thoroughly this means that these signals are topologically equivalent.

In our talk we will present sufficient conditions for a signal to be topologically stable with respect to small averagings.

We will also discuss the applications of the obtained results to computation of permutation and Kolmogorov-Sinai entropies.