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Zero-dimensional compact metrizable spaces as attractors of (generalized) iterated function systems

In the last years, the problem of considering zero-dimensional compact metrizable spaces as attractors of iterated function systems has been undertaken by several authors.

I will show that each such a space X which is uncountable or is countable but has successor scattered height, can be embedded into the real line $\mathbb{R}$ as the attractor of a strictly contracting IFS (this result was obtained jointly with T. Banakh and M. Nowak, and, independently, by E. D'Aniello and T.H. Steele), whereas if X is countable with limit scattered height, then it is not homeomorphic to the attractor of any weakly contracting IFS (this fact was proved by M. Nowak). Finally, I will present a result obtained jointly with Ł. Maślanka saying that in all cases, X can be embedded into the real line as the attractor of a *generalized* IFS in the sense of A. Mihail and R. Miculescu. In particular, this shows that the class of attractors of generalized IFSs is essentially wider than the class of classical IFSs' attractors. I will also recall some other results in this setting.