Attractors with the Symmetry of the n-Cube

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Abstract

Equivariant polynomial functions with the symmetries of the n-cube are completely determined in terms of permutations of exponents. Strategies for random searches of linear combinations of these functions are described and used to generate interesting examples of attractors. These attractors have symmetries that are an admissible subgroup of the symmetries of the square, cube and 4-cube. A central projection of the 4-cube with partial inversion is used for the illustrations of attractors in four dimensions.