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Dorin Ervin Dutkay*, ddutkay@gmail.com. *Orthonormal bases generated by Cuntz algebras.*

The Cuntz algebra is generated by N isometries subject to the Cuntz relations

$$S_i^* S_j = \delta_{ij} I, \quad \sum_{i=1}^N S_i S_i^* = I.$$

We will show how Fourier bases, Walsh bases and their generalization, Fourier bases on fractals can be generated by iterating some Cuntz isometries on a finite family of vectors. (Received September 12, 2019)