Irreducible representations of the Cuntz algebra $\mathcal{O}_N$ on $L^2[0,1]$ give rise to orthonormal bases. We use dilation techniques to prove that a set of $N$ operators on a Hilbert space $H$ satisfying part of the Cuntz relations

$$\sum_{i=1}^{N} S_i S_i^* = I$$

gives rise to a Parseval frame on $H$ if and only if the Cuntz representation on the (unique) dilation of $(H, S_i)$ is irreducible. This is based on joint work with D. Dutkay and E. Weber. (Received August 23, 2018)