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Joseph D Lakey* (jlakey@nmsu.edu). *An analogue of Slepian vectors for Boolean hypercubes*. Preliminary report.

Slepian vectors are a finite-dimensional analogue of prolate spheroidal wave functions that are optimally concentrated in time among all bandlimited functions. N -dimensional Boolean cubes can be regarded as N -regular graphs, on one hand, and as N -fold products of the group of integers mod two. The structure enables one to develop aspects of time–frequency analysis analogous to the Euclidean setting. Here we address basic questions about which vertex functions on Boolean cubes are most concentrated among all bandlimited functions, and methods to compute these functions. This represents joint work with Jeff Hogan. (Received February 01, 2018)