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Orthogonal Tensor Decomposition.

A tensor is orthogonally decomposable if it can be written as a linear combination of rank-one tensors $a_i \otimes b_i \otimes c_i \otimes \dots$ such that the a_i are orthonormal, the b_i are orthonormal, the c_i are orthonormal, etc. Every matrix is orthogonally decomposable because of the singular value decomposition theorem. In this work we give equations that cut out the variety of orthogonally decomposable tensors. (Received September 20, 2015)