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Bernhard G Bodmann^{*} (bgb@math.uh.edu), 651 PGH, Department of Mathematics, University of Houston, Houston, TX 77204, and Peter G Casazza. Distance estimates and a flow converging to equal-norm Parseval frames.

We present bounds for the distance between the set of equal-norm Parseval frames and a frame which is nearly Parseval and has approximately equal-norm vectors. The lower bound on the distance results from variational inequalities. The upper bound uses a family of ordinary differential equations for Parseval frames and a related flow which can be shown to converge to an equal-norm Parseval frame, if the number of vectors in a frame and the dimension of the Hilbert space they span are relatively prime, and if the initial frame consists of vectors having sufficiently nearly equal norms. (Received September 11, 2009)