1120-46-18 **Peter G Casazza*** (`casazzap@missouri.edu`), Department of Mathematical Sciences, University of Missouri, Columbia, MO 65211, and **Xuemei Chen** (`anotherdai@gmail.com`), Department of Mathematics, New Mexico State University, 1290 Frenger Mall, Las Cruces, 88003. *Frame scalings a condition number approach.*

Scaling frame vectors is a simple and noninvasive way to construct tight frames. However, not all frames can be modifed to tight frames in this fashion, so in this case we explore the problem of finding the best conditioned frame by scaling, which is crucial for applications like signal processing. We conclude that this problem is equivalent to solving a convex optimization problem involving the operator norm, which is unconventional since this problem was only studied in the perspective of Frobenious norm before. We also further study the Frobenious norm case in relation to the condition number of the frame operator, and the convexity of optimal scalings. (Received January 16, 2016)