1023-47-978 **Troy Henderson*** (troy.henderson@usma.edu), Department of Mathematical Sciences, United States Military Academy, West Point, NY 10996, and **David R Larson** (larson@math.tamu.edu), Department of Mathematics, Texas A&M University, College Station, TX 77845. *Causal Relationships Between Frames.* Preliminary report.

The ability to obtain Parseval frames from generic frames is analogous to that of obtaining orthonormal bases from generic (Riesz) bases. Although the (inverse of the) frame operator can be used to transform a frame into a Parseval frame, the resulting Parseval frame lacks the "causal relationship" between the given frame as seen in the Classical Gram-Schmidt algorithm for bases. We will show that every frame is causally related to a Parseval frame as well as illustrate that such a Parseval frame need not be unique. We will also discuss a technique for converting frames into Parseval frames in a manner that generalizes the Gram-Schmidt algorithm by ensuring causality between the two frames. Since this Parseval frame need not be unique, we will exhibit a "best" Parseval frame that is causally related to the original frame. (Received September 24, 2006)