1136-42-216 **Mark Magsino*** (mmagsino@math.umd.edu). *Constructing Tight Gabor Frames Using CAZAC Sequences.*

The construction of finite tight Gabor frames plays an important role in many applications which include signal and image processing. We explore when constant amplitude zero autocorrelation (CAZAC) sequences can be used to generate tight Gabor frames. The main theorem uses Janssen's representation and the zeros of the discrete periodic ambiguity function to give necessary and sufficient conditions for determining whether a Gabor frame is tight. The relevance of the theorem depends significantly on the construction of examples. These examples are necessarily intricate, and depend on CAZAC sequences. To conclude, we present an alternate method for determining when Gabor frames are tight. This alternate method uses the Gram matrix of the Gabor system instead. (Received January 16, 2018)