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Dustin G Mixon (dustin.mixon@gmail.com) and **Jesse D Peterson**
(peterson.jesse.d@gmail.com). *Generalized Steiner Equiangular Tight Frames.*

We will present a new construction of complex equiangular tight frames (ETFs), which combines Steiner ETFs and harmonic ETFs. The construction not only gives a new infinite class of complex ETFs but also a new infinite class of real ETFs. Through the well known correspondence between real equiangular line sets and strongly regular graphs our construction gives a new infinite class of strongly regular graphs. By modifying our construction slightly, we are also able to demonstrate the nonexistence of some combinatorial designs whose existence was previously an open problem. (Received January 20, 2015)