1135-F1-1335   **Emily Gullerud*** (`gullerej@uwec.edu`) and **James S. Walker** (`walkerjs@uwec.edu`). *Creating Hyperbolic Wallpapers and Animations.* Preliminary report.

We extend the work of Dr. Frank Farris by developing a computationally efficient way of generating hyperbolic wallpaper designs. Using Matlab, we compute an array of linear transformations through the use of a trinary tree of Pythagorean pairs and their corresponding Bézout coefficients. Entries in this array are then used to generate the designs, bypassing the need for the greatest common divisor function in Matlab. Further, we create animations of these wallpapers through various techniques. (Received September 21, 2017)