1067-00-143   **Marilyn Manee Smith*** (`smith7mm@cmich.edu`), 6290 N Vandecar rd, Farwell, MI 48622, and **Megan Elizabeth Haske** and **Darren Everett Sowards**. *Optimal Ranges for ECG Noise Removal by Using Wavelets.*

An electrocardiogram, or ECG, shows the electrical activity in the heart and can be used to detect abnormalities. Wavelets are a good analysis tool for denoising non-stationary signals like ECGs. The goal of this study is to determine the optimal wavelet, order, level, and threshold for denoising an ECG while smoothing out and maintaining the integrity of the original signal. The wavelets used are: Daubechies, Biorthogonal Spline, Coiflet, and Symlet. Soft thresholding is used with the following thresholdings: Rigorous Sure, Heuristic Sure, Universal, and Minimax. The signal-to-noise ratio is used in combination with the percentage root mean square difference to determine the optimal conditions for wavelet denoising. (Received July 27, 2010)