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Muhammad Aslam* (maslam@math.wvu.edu), Department of Mathematics, West Virginia University, Morgantown, WV 26506, and **Sherman D. Riemenschneider** and **Lixin Shen**. *A Pre and Post Processing to Reduce the Gibbs Phenomenon.*

Wavelet based algorithms are very efficient to approximate the smooth signals but the same order of accuracy cannot be maintained for non smooth signals. Wavelet decomposition generates high frequency wavelet coefficients of significant magnitude corresponding to the discontinuities present in the signal and cause Gibbs phenomenon. We have proposed an invertible transform which increases the degree of smoothness for the non smooth regions of the signal. This transform works as a pre and post processing tool for the standard wavelet approximation approach and consequently improves the order of approximation and reduces the Gibbs phenomenon. (Received September 28, 2005)