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Roger Zarnowski* (roger.zarnowski@angelo.edu), **Tatyana Sorokina** (TSorokina@towson.edu) and **David K Ruch** (ruch@mscd.edu). *A Student Project on Matrix Completion for Discrete Wavelet Transformations*. Preliminary report.

Wavelet transformation matrices for finite data are commonly constructed by wrapping the filter coefficients at the boundary rows. For data that cannot appropriately be interpreted as periodic, this results in an undesirable mixing of information from opposite boundaries. A remedy called matrix completion consists of modifying the boundary rows with a different set of coefficients, chosen to eliminate wrapping while preserving orthogonality. We describe a student project for developing matrix completions for the Daubechies D4 and D6 filters, using a CAS such as Mathematica or Matlab. The project incorporates both analysis and computation, as well as illustrative examples and an examination of certain tradeoffs that must be considered in constructing the solutions. (Received September 16, 2008)