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**Youngmi Hur**, 100 Whitehead Hall, 3400 North Charles St., Baltimore, MD 21210, and **Fang Zheng\***, 100 Whitehead Hall, 3400 North Charles St., Baltimore, MD. *The Design of Non-redundant Directional Wavelet Filter Bank Using 1-D Neville Filters*. Preliminary report.

In this paper, we develop a method to construct non-redundant directional wavelet filter banks. Our method uses a special class of filters called Neville filters and can construct non-redundant wavelet filter banks in any dimension for any dilation matrix. The resulting filter banks have directional analysis highpass filters, thus can be used in extracting directional contents in multi-D signals such as images. Furthermore, one can custom-design the directions of highpass filters in the filter banks. (Received August 22, 2013)