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Babin Li* (binnli@hotmail.com), 4352 Walker Lane Apt C, St.Louis, MO 63121. *Two Kinds of Balanced Multifilter Banks.*

It is well known that the multiwavelet can possess all the desirable properties important in signal processing, such as orthogonality, compact support, symmetry(antisymmetry) and high order of vanishing moment, all of which the traditional scalar wavelet can not possess at the same time. Moreover, Similar to the scalar wavelets, the parametrization of multifilter banks is important for constructing multiwavelets. Some types of parametrization have been given. In this paper, basing on the lattice structures for casual FIR losses systems, we will first present the explicit parametrization of multifilter banks generating balanced multiwavelets or armlets, and construct some high order balanced multiwavelets and armlets using this parametrization.

Recently, the multiple description coding(MDC) has received much attention because of packet losses in transmitting data over unreliable networks. Multiple description coding is a source coding for multiple channels such that a decoder which receives an arbitrary subset of the channels may produce a useful reconstruction. On the basis of the balanced multiwavelets transform, we will propose a new method for MDC in this paper. (Received September 11, 2007)