Subject: A wavelet question
Posted by Konstantinos on Wed, 01 Aug 2012 21:19:09 GMT
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Suppose that i want to use the biorthogonial wavelet filter that used for Jpeg2000 decomposition (Cohen-Daubechies 9/7 wavelet filter).

Let suppose that i do not want to write my own code or use available codes from internet AND i want to Use the IDL WV_WDT function.

But if i want to use WV_WDT i must first create, lets say, a WV_FN_jp2k function that describes my wavelet.

There are 2 ways to implement the wavelet transform Lifting and Convolution. I think that ILD uses the convolution method. (AM I CORRECT???)

According to IDL wavelet manual "The wavelet consists of two components, the scaling function which describes the low-pass filter for the wavelet transform, and the wavelet function which describes the band-pass filter for the transform."

So if i got it right I have to define the low pass and the band pass filter coefficients, in my WV_FN_jp2k.

So it must look like this.

```
FUNCTION wv_fn_j2k, Order, Scaling, Wavelet, Ioff, Joff
;Definition of Low Pass (scaling) and High pass (wavelet) Filter
; values from  http://en.wikipedia.org/wiki/Cohen-Daubechies-Feauveau_wavel et
scaling= [0.026748757411d , $
        -0.016864118443d, $
        0.078223266529d , $
        0.266864118443d , $
        0.602949018236d , $
        0.266864118443d , $
        -0.078223266529d, $
        -0.016864118443d, $
        0.026748757411d   ]
wavelet= [0d, 0.091271763114d  , $
           -0.057543526229d  , $
           -0.591271763114d  , $
            1.11508705d      , $
           -0.591271763114d  , $
           -0.057543526229d  , $
            0.091271763114d  , 0]
order_range = [1,1,1]
order = order_range[2]
 n = N_ELEMENTS(scaling)
ioff = -n/2 + 2  ; offset for scaling
joff = ioff
```

```
info = {family:'j2k', $
        order_name:'Order', $
        order_range:[1,1,1], $
        order:1, $
        discrete:1, $
        orthogonal:0, $
        symmetric:1, $
        support:1, $
        moments:4, $
        regularity:0.0}

RETURN, info
END
```

COULD BE CORRECT or i am missing something??

Thank u in advance 4 your answers
