Algorithm 1 Wavelet Transform: Wavelet Pyramid Method: Driving Transform

Require: Wavelet Pair hA and hD of length w_l
Require: Matrix A of size $M \times N$
Require: Number of resolutions, r
Initialize matrix α to $M \times N$ and set equal to A
Initialize matrix β to $M \times N$ and set equal to zero.
for $k = 0$ to r **do**
$M' = \frac{M}{2^k}$
$N' = \frac{N}{2^k}$
call row transform for matrix α, with dimension limits M' , N' store in β
call column transform for matrix β, with dimension limits M' , N' store in α
end for
Return α as result