

## Amendments to

*Wavelets* by Bergh-Ekstedt-Lindberg, last updated on November 9, 2014.

- p 4, l 3+ the formula should be multiplied by a factor 2
- p 11, l 13- 'entries in the matrices' should be 'entries in each row of the matrices'
- p 12, l 8+ ' $2^{9+9+6} \approx 2$  Mbytes' should be ' $2^{9+9}(9+9+6) \approx 6$  Mbits'
- p 14, l 3- 'a (free) MATLAB toolbox WAVELAB' should be changed into  
'a WAVELET toolbox in MATLAB'
- p 17, l 3- 'real numbers' should be 'numbers'
- p 18, l 9- 'So, if' should be 'So, formally, if'
- p 21, l 2- in the equation  $y$  and  $y^*$  should be interchanged
- p 24, l 8+ the first factors 2 in the last two members should both be  $1/2$
- p 25, l 11+ the last instance of ' $h_1$ ' should be ' $h_2$ '
- p 25, l 11- 'constant phase' should be 'constant phase (by complex function theory)'
- p 29, l 3+ in the sum, the upper limit ' $n$ ' should be ' $n - 1$ '
- p 29, l 7+ in the sum, the upper limit ' $n$ ' should be ' $n - 1$ '
- p 31, l 3+ ' $\omega \geq \pi$ ' should be ' $|\omega| \geq \pi$ '
- p 33, l 9- 'basis' should be '(Schauder) basis'
- p 39 in Figure 3.3 the two arrows should point up
- p 40, l 5+ 'upsampling' should be 'downsampling'
- p 41 in Figure 3.4 the two arrows on the right should point up
- p 42, l 13+ 'get' should be 'impose'
- p 44, l 11+ 'we have' should be 'we have, in the case of real filters,'
- p 47, l 15+ 'where both zeros are at  $z = -1$ .' should be 'which can be seen inserting  $H$  as a function of cosines in the orthogonality condition.'
- p 55, l 2+ 'Also show that it is closed (quite difficult).' should be deleted
- p 61, l 9+ ' $\varphi$ ' should be ' $\hat{\varphi}$ '
- p 63 in Example 4.4 the function values should all be moved one half-integer to the right
- p 63, l 4- ' $\text{sinc } 2t$ ' should be ' $2 \text{sinc } 2t$ '
- p 64 in Figure 4.7 the wavelet should be moved one half-integer to the right
- p 65, l 3+ ' $\psi(2^j k - t)$ ' should be ' $\psi(2^j t - k)$ '
- p 66, l 7- ' $\text{sinc } 2t$ ' should be ' $2 \text{sinc } 2t$ '
- p 71, l 6+ ' $l + 2k$ ' should be ' $l - 2k$ '
- p 73, l 10- both instances of ' $j, k$ ' should be ' $j, l$ '

- p 76 in the second equation of (4.30) there should be a minus sign in front of the right hand side
- p 76, l 15+ '(4.28)' should be '(4.29)'
- p 77, l 9+ both instances of ' $j, k$ ' should be ' $j, l$ '
- p 77, l 8- both instances of ' $j, k$ ' should be ' $j, l$ '
- p 77, l 3- '(4.21)' should be '(4.29)'
- p 78, l 2+ '(4.28)' should be '(4.29)'
- p 78, l 6+ ' $[0, (M + \tilde{M} - 2)/2]$ ' should be 'intervals of length  $(M + \tilde{M} - 2)/2$ '
- p 79, l 3+ ' $n$ ' should be ' $\alpha$ '
- p 79, l 7+ ' $n$ ' should be ' $\alpha$ '
- p 80 in Exercise 4.27 the assumption ' $DH(\omega)$  has a zero of order  $N - 1$  at  $\omega = 0$ ' should be added
- p 94, l 13- 'Assuming that  $\varphi(x - k)$ ' should be 'Assuming that  $\varphi(x)$ '
- p 104, l 12- ' $s_{j+1, k}$ ' should be ' $s_{j+1, 2k}$ '
- p 107, l 2- '(6.3)' should be '(6.3), where  $C \neq 0$  and 0 may have to be interchanged,'
- p 108, l 6- ' $q_{k+1} = 0.$ ' should be ' $q_{k+1} = 0$ , and here  $r_k(z)$  and 0 have to be interchanged.'
- p 108, l 4- '(6.3):' should be '(6.3), where  $C \neq 0$  and 0 may have to be interchanged:'
- p 109, l 4+ 'where the last scaling  $1/C$ ' should be 'where the rows in the last factor may have to be interchanged and the last scaling  $1/C$ , alternatively  $-1/C$ ,'
- p 114 in (7.1) the last three instances of ' $f$ ' should be ' $\hat{f}$ '
- p 115, l 3+ a minus sign should be added in front of the bracket
- p 115, l 4+ the two terms should be interchanged
- p 115, l 1- the last instance of ' $f$ ' should be ' $\hat{f}$ '
- p 132, l 2+ 'Show that' should be 'Show that, for real filters,'
- p 132, l 4- and l 5- ' $2^{-j}k$ ' should be ' $2^{-j}t$ '
- p 160 in Exercise 9.6 the last three instances of ' $f$ ' should be ' $\tilde{f}$ '
- p 163, l 1- ' $\{0, 1, \dots, K\}$ ' should be ' $\{-K, \dots, K\}$ '
- p 164, l 1+ ' $(d_k, d_{k+1}]$ ' should be ' $(d_{k-1}, d_k]$ '
- p 164, l 2+ 'rule.' should be 'rule, and  $d_0 = 0.$ '
- p 164, l 3+ 'to a corresponding interval on the negative axis' should be 'to the corresponding negative integer'
- p 170, l 6- ' $N$ ' should be ' $K$ '

- p 184, l 6- 'In general,' should be 'Noting that  
 $\langle D^\alpha f, \psi_{j,k} \rangle = 2^{j(\alpha-1/2)} \langle D^\alpha(f(2^{-j}\cdot)), \psi_{0,k} \rangle$ ,'
- p 185, l 6+ 'and' should be 'and, using that  $\Psi$  vanishes outside a bounded interval,'
- p 185, l 7+ this line should be ' $\|f\|_2^2 = \sum_k |\int D^\alpha f(y) \Psi(y-k) dy|^2 \leq$ '
- p 185, l 10+ the integration variable ' $x$ ' should be ' $t$ ' in both integrals