Errata for *Foundations of Signal Processing* May 16, 2020

Page	Position	Current	Corrected
Chapter 2			
21	Example 2.4	that do no equal	that do not equal
27	Definition 2.9	, with equality if and only if $y = \alpha x$	remove (holds for Hilbert space norms)
28	Example 2.10(i)	$\\|x\\| = \|x_0\|^2 + 5\|x_1\|^2$	$\\|x\\| = \sqrt{\|x_0\|^2 + 5\|x_1\|^2}$
36	last line	sequence converges to x	sequence converges to v
52	(ii) *Orthogonality*, 3rd line	since x and φ are in S	since $\widehat{x}$ and φ are in S
59	2nd line above Theorem 2.30	idempotent, it is orthogonal.	idempotent, it is self-adjoint.
64	equation (2.76)	$\mathrm{E}[\,\mathrm{y}_1^* \mathrm{y}_2^*\,]$	$\mathrm{E}[\,\mathrm{y}_1 \mathrm{y}_2^*\,]$
125	Example 2.61	$n = 1, 2, \ldots, N,$	$n = 1, 2, \ldots, N-1,$
139	end of 6th line	such that.	such that,
Chapter 3			
191	sentence containing (3.24a)	Hermitian matrix (see (2.239a))	Hermitian sequence of matrices
	sentence containing (3.24b)	symmetric matrix	symmetric sequence of matrices
206	3rd line of Example 3.11	$a_0 = -1$	$a_1 = -1$
210	Figure 3.6(f)	h_{-n+1}	h_{-n+3}
213	equation below (3.72b)	. at the end of the equation	, at the end of the equation
217	3rd line below (3.77)	is is	is
222	Moments entry of Table 3.4	$(-j)^k \frac{\partial X(e^{j\omega})}{\partial \omega}\Big\|_{\omega=0}$	$j^k \frac{\partial^k X(e^{j\omega})}{\partial \omega^k}\Big\|_{\omega=0}$
223	equation (3.95a)	$(-j)^k \frac{\partial X(e^{j\omega})}{\partial \omega}\Big\|_{\omega=0}$	$j^k \frac{\partial^k X(e^{j\omega})}{\partial \omega^k}\Big\|_{\omega=0}$
	equation (3.95c)	$-j \frac{\partial X(e^{j\omega})}{\partial \omega}\Big\|_{\omega=0}$	$j \frac{\partial X(e^{j\omega})}{\partial \omega}\Big\|_{\omega=0}$
226	equation (3.107), 2nd line	$x_n e^{j\omega n}$	$x_n e^{-j\omega n}$
	equation (3.107), 2nd line	$x_k e^{j\omega k}$	$x_k e^{-j\omega k}$
	equation (3.107), 3rd line (twice)	$e^{j\omega(n-k)}$	$e^{j\omega(k-n)}$
	equation (3.107), 4th line	δ_{n-k}	δ_{k-n}
227	3rd line	DTFT of x_n^* is $X^*(e^{j\omega})$	DTFT of x_n^* is $X^*(e^{-j\omega})$
241	equation (3.138) and Table 3.6 (p. 243)	$(\mathrm{ROC}_x)^{1/N}$	$\supset (\mathrm{ROC}_x)^{N}$
	equation (3.139) and Table 3.6 (p. 243)	$(\mathrm{ROC}_x)^N$	$(\mathrm{ROC}_x)^{1/N}$
242	equation (3.143b)	$X(0)$	$X(1)$
244	derivation in Example 3.24	$\sum_{n\in\mathbb{Z}} h_n x_{k-n} \;=\; \sum_{n\in\mathbb{N}} \alpha^n$	$\sum_{k\in\mathbb{Z}} h_k x_{n-k} \;=\; \sum_{k\in\mathbb{N}} \alpha^k$
251	relation (3.156b)	, at the end	. at the end
268	3rd expression from the top	$\frac{1}{2}\left(\frac{1}{1-\alpha z^{1/2}} + \frac{1}{1+\alpha z^{-1/2}}\right)$	$\frac{1}{2}\left(\frac{1}{1-\alpha z^{-1/2}} + \frac{1}{1+\alpha z^{-1/2}}\right)$
271	Example 3.32, last line	when followed by U_2,a leads	when followed by U_2, leads
291	7th line below (3.239)	$+b_0^* b_1 z^{-1} \delta_{k-1}$	$+b_0^* b_1 \delta_{k-1}$
300	between (3.258a) and (3.258b)	time lag k	time index k
321	Example 3.48, middle line	$\det H(z) = (1+z)2 - z(2+z)$	$\det H(z) = (1+z)^2 - z(2+z)$
Chapter 4			
354	equation (4.28)	$\max(1_{\{-\infty,\ldots,t\}}\, x)$	$\max(1_{(-\infty,t]}\, x)$
359	3rd line below (4.37)	is is	is
366	Table 4.1, scaling in time and frequency	$(1/\alpha)X(\omega/\alpha)$	$(1/\|\alpha\|)X(\omega/\alpha)$
	Table 4.1, shifted Dirac delta function	$e^{-j\omega_0 t}$	$e^{-j\omega t_0}$
367	scaling in time and frequency (twice)	$(1/\alpha)$	$(1/\|\alpha\|)$
383	6th line above Theorem 4.14	where $\widetilde{\varphi} = e^{j(2\pi/T)kt}$	where $\widetilde{\varphi}_k(t) = e^{j(2\pi/T)kt}$
401	labels on lower plot of Figure 4.14(b)	$-2\pi/T \quad 2\pi/T$	$-1 \quad 1$
Chapter 6			
561	equation (6.75)	$\alpha_k^{(1)} = \sum_{m=-\infty}^{k} \alpha_k$	$\alpha_k^{(1)} = \sum_{m=-\infty}^{k} \alpha_m$
606	equation (P6.1-1)	$(t^2 - 1)$	$(1 - t^2)$
Chapter 7			
641	equation (7.27c) and the line below	$g^{(\ell-1})$ (twice) and $\varphi^{(N^{\ell-1}})$	$g^{(\ell-1)}$ and $\varphi^{(N^{\ell-1})}$
References			
676	[30] G. B. Folland.	*A Course in Abstract Harmonic Analysis.* CRC Press, London	*Introduction to Partial Differential Equations.* Princeton University Press, second edition

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