Errata

Signals, Systems, Transforms and Digital Signal Processing with MATLAB©

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Back cover

First sentence should read:

Signals, Systems, Transforms, and Digital Signal Processing with MATLAB® has as its principal objective *simplification without compromise of rigor*. Graphics, called by the author 'the language of scientists and engineers', physical interpretation of subtle mathematical concepts, and a gradual transition from basic to more advanced topics are meant to be among the important contributions of this book

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Preface

First sentence should read:

Simplification without compromise of rigor is the principal objective in this presentation of the subject of signal analysis, systems, transforms and digital signal processing. Graphics, the language of scientists and engineers, physical interpretation of subtle mathematical concepts and a gradual transition from basic to more advanced topics, are meant to be among the important contributions of this book.

Chapter 1

Fig. 1.17 (c):

Erase foreign diagonal line inadvertently added on electric circuit.

Prob 1.23

a) **A system has an impulse response ….**

b) **Evaluate the convolutions ….**

Problem 1.34

y(t) = R_{2}(t) **= …**

Chapter 4

Problem 4.6

Let f(t) be a periodic signal of period …

Evaluate the Fourier series coefficients and the Fourier transform over the interval (-1, 1) of

a) f(t),

b) the causal function g(t) = …

Problem 4.23

Let x(t) …

Let the signal y(t) be a periodic signal …

Problem 4.24

b) … Evaluate the **Fourier** transform …

Chapter 5

Problem 5.15

The following, part c), would be a good addition to the book problem.

c) For cases a) and b) above find the continuous-time functions f_1(t) and f_2(t) which when ideally sampled would produce the signals x(t) and v(t), respectively, and write the outputs y_1(t) and y_2(t) as functions of f_1(t) and f_2(t) and the shifted versions of the step function u(t).

Prblem 5.22

For the d-c current motor shown in Fig. 5.82 assuming a constant voltage E_{e} in the inductor circuit, a negligible inductance of the armature circuit and negligible load …

Chapter 7

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before We note that

-1/2 is missing. Should read

$$V(z) = \sum_{n=0}^{\infty} e^{-\alpha nT} z^{-n} - \frac{1}{2} = \ldots$$

In Section Answers to selected problems

Last two problems should be numbered 7.32 and 7.33 instead of 7.31 and 7.32.

In other words

Replace Heading: Problem 7.31 by 7.32

Replace Heading: Problem 7.32 by 7.33

Chapter 9

Figure9.32

Caption of Figure9.32 should read

\caption{Magnitude spectrum $|H(j\omega)|$ of ninth order elliptic filter.

Problem 9.23

Note that problem 9.23 is the same as 9.22. Omit 9.23.

Chapter 11

Section 11.34 Pade Approximation

In the Pad\'{e} approximation approach …

such that the filter impulse response h[n]=… best matches a desired impulse response …

Problems 11.42 to Prob 11.45

Replace h[n-N] by **h[N-n]**

Chapter 12

Problem 12.1

A system has the impulse response%

$$h(t) = \sin \pi t R_T(t) = \ldots$$

Chap 15

Section 15.29.2 Realization using JK Flip-Flops

The realization using JK$ flip-flops is similarly obtained …. The resulting Karnaugh maps of J_2, J_1, K_2 and K_1 are shown in Fig. 15.47.

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From the tables we may define the micro-operations as functions of states and conditions.

We have

\mu_{1} & = (START \leftarrow ON)

…

\mu_{12} & = S_{10},

\mu_{13} & = & S_{11}UEQ0.\overline{AEQ0}. \\

Chap 17

Sec. 17.7 Other Approximating Sequences

Last equation 17.61

Redundant; same as 17.59.

Chap 18

Page 1244

Table 18.5

The transform of $na^n u[n]$ is $\frac{az^{-1}}{\left(1-az^{-1}\right)^2}-\pi z\frac{d}{dz}\psi(a^{-1}z)$.

The transform of $(n+1)a^n u[n]$ is $\frac{1}{\left(1-az^{-1}\right)^2}-\pi\left\{z\frac{d}{dz}\psi(a^{-1}z)-\psi(a^{-1}z)\right\}$.

Correct table entry at n a^n u[n].

Page 1258

Stirling Number First Kind

$$s(n,m)\equiv s_n^m=\sum_{k=0}^{n-m}(-1)^k\binom{n-1+k}{n-m+k}\binom{2n-m}{n-m-k}S(n-m+k,k).$$

Page 1266 Abu Ja'far ... Al-Khwarizmi:

Line 26: Replace wass by was