Erratum in SIAM Book (2010):

Nonlinear Waves in Integrable and Nonintegrable Systems

- Page 16, first line below Eq. (2.5), the statement "so that the new matrix function J is (x, t)-independent at infinity" is incorrect. The motivation for introducing J in Eq. (2.5) is that $P^+ \equiv J_- H_1 + J_+ H_2 = (\phi_1, \psi_2) e^{i\zeta\Lambda x}$ is analytic for ζ in the upper half plane, and $P^- \equiv H_1 J_-^{-1} + H_2 J_+^{-1}$ is analytic for ζ in the lower half plane.

- Page 33, Eq. (2.125), the correct form of F is

$$ F = \begin{pmatrix} 0 & c_1 e^{\theta_1} & \dots & c_N e^{\theta_N} \\ e^{-\theta_1^*} & M_{11} & \dots & M_{1N} \\ \vdots & \vdots & \vdots & \vdots \\ e^{-\theta_N^*} & M_{N1} & \dots & M_{NN} \end{pmatrix}. \tag{2.125} $$

- Page 65, Eq. (2.268), the second row, second column of $\mathcal{L}$ should be: $i\partial_t - \partial_{xx} - 4|u|^2$

- Page 67, Eq. (2.280): the operator $\mathcal{L}^A$ should be:

$$ \mathcal{L}^A = \begin{pmatrix} -i\partial_t + \partial_{xx} + 4|u|^2 & -2u^{*2} \\ 2u^2 & -i\partial_t - \partial_{xx} - 4|u|^2 \end{pmatrix} \tag{2.280} $$

- Page 79, Eqs. (3.1)–(3.2): a factor of 2 is missing in the nonlinear terms. The correct equations are

$$ iu_t + u_{xx} + 2(|u|^2 + |v|^2)u = 0, \tag{3.1} $$
$$ iv_t + v_{xx} + 2(|u|^2 + |v|^2)v = 0, \tag{3.2} $$

- Page 82, Eqs. (3.29)–(3.30): a factor of 2 is missing in the nonlinear terms. The correct equations are

$$ iu_t + u_{xx} + 2(|u|^2 - |v|^2)u = 0, \tag{3.29} $$
$$ iv_t + v_{xx} + 2(|u|^2 - |v|^2)v = 0, \tag{3.30} $$

- Page 109, Eqs. (3.211)–(3.212): a factor of 2 is missing in the nonlinear terms. The correct equations are

$$ iu_t + u_{xx} + 2(|u|^2 + |v|^2)u = 0, \tag{3.211} $$
$$ iv_t + v_{xx} + 2(|u|^2 + |v|^2)v = 0, \tag{3.212} $$

- Page 112, Eqs. (3.226)–(3.227): a factor of 2 is missing in the nonlinear terms. The correct equations are

$$ iu_t + u_{xx} + 2(|u|^2 - |v|^2)u = 0, \tag{3.226} $$
$$ iv_t + v_{xx} + 2(|u|^2 - |v|^2)v = 0, \tag{3.227} $$

- Page 172: In Eq. (5.47), "min" should be "max". In addition, in first line below Eq. (5.47), "minimum" should be "maximum"

- Page 178, Eq. (5.73), the sign of the potential is wrong. The correct potential is:

$$ V(x) = -3\left[e^{-(x-1.5)^2} + e^{-(x+1.5)^2} \right] \tag{5.73} $$

- Page 179, caption of Fig. 5.5, line 1-2: "double-hump potential" should be "double-well potential".