Generalized Additive Models 2nd edition errata

p106 foot of page:

$$\begin{aligned} \boldsymbol{\beta}^{[k+1]} &= \boldsymbol{\beta}^{[k]} + (\mathbf{XWX})^{-1}\mathbf{X}^{\mathsf{T}}\mathbf{WG}(\mathbf{y}-\boldsymbol{\mu}) \\ &= (\mathbf{XWX})^{-1}\mathbf{X}^{\mathsf{T}}\mathbf{W}\{\mathbf{G}(\mathbf{y}-\boldsymbol{\mu}) + \mathbf{X}\boldsymbol{\beta}^{[k]}\} \\ &= (\mathbf{XWX})^{-1}\mathbf{X}^{\mathsf{T}}\mathbf{Wz} \end{aligned}$$

should be

$$\begin{aligned} \boldsymbol{\beta}^{[k+1]} &= \boldsymbol{\beta}^{[k]} + (\mathbf{X}^{\mathsf{T}} \mathbf{W} \mathbf{X})^{-1} \mathbf{X}^{\mathsf{T}} \mathbf{W} \mathbf{G} (\mathbf{y} - \boldsymbol{\mu}) \\ &= (\mathbf{X}^{\mathsf{T}} \mathbf{W} \mathbf{X})^{-1} \mathbf{X}^{\mathsf{T}} \mathbf{W} \{ \mathbf{G} (\mathbf{y} - \boldsymbol{\mu}) + \mathbf{X} \boldsymbol{\beta}^{[k]} \} \\ &= (\mathbf{X}^{\mathsf{T}} \mathbf{W} \mathbf{X})^{-1} \mathbf{X}^{\mathsf{T}} \mathbf{W} \mathbf{z} \end{aligned}$$

p107 second from last paragraph $\|\sqrt{\mathbf{W}}\mathbf{z} - \sqrt{\mathbf{W}}\mathbf{X}\|^2$ should be $\|\sqrt{\mathbf{W}}\mathbf{z} - \sqrt{\mathbf{W}}\mathbf{X}\boldsymbol{\beta}\|^2$ p149 Algorithm step 3: $\|\mathbf{z} - \mathbf{X}\boldsymbol{\beta} - \mathbf{Z}\mathbf{b}\|_W^2 + \phi\mathbf{b}^{\mathsf{T}}\phi_{\theta}^{-1}\mathbf{b}$ should be $\|\mathbf{z} - \mathbf{X}\boldsymbol{\beta} - \mathbf{Z}\mathbf{b}\|_W^2 + \phi\mathbf{b}^{\mathsf{T}}\psi_{\theta}^{-1}\mathbf{b}$. p155 s(g,bs="re")+ s(x,g,bs="re") is correct. p164

$$b_j(x) = \begin{cases} (x - x_{j-1}^*) / (x_j^* - x_{j-1}^*) & x_{j-1}^* < x \le x_j^* \\ (x_{i+j}^* - x) / (x_{j+1}^* - x_j^*) & x_j^* < x < x_{j+1}^* \\ 0 & \text{otherwise} \end{cases}$$

has i + j in place of j + 1 on second line and should be

$$b_j(x) = \begin{cases} (x - x_{j-1}^*)/(x_j^* - x_{j-1}^*) & x_{j-1}^* < x \le x_j^* \\ (x_{j+1}^* - x)/(x_{j+1}^* - x_j^*) & x_j^* < x < x_{j+1}^* \\ 0 & \text{otherwise} \end{cases}$$

p180. PIRLS step 2, display expression has a spurious ')'.

p207 The sentence before the construction recipe should read: "Let $p = m_1 - m_2$ and the inter-knot...". Point 4 should start with 'If' not 'It'.

p209 Last display equation should be

$$J = \sum_{i=2}^{k-1} (\gamma_{i+1} - \gamma_i)^2$$

p231 line 12. $\Gamma_{ij} = a_j(x_i^*)$

p242. The spherical correlation function should have a power of 3 instead of the power of 2, and the section reference for Fahrmeir et al is 8.1.6 not 8.1.3. Also the right panel of figure 5.20 (and its interpretation) is based on buggy code: it would look *much* worse than this for the stated ρ !

p263. (6.21) should have $+\log |\mathbf{S}_{\lambda}/\phi|_{+}/2$ (not minus)

p294. In display equation $\|\mathbf{B}(\mathbf{F}\boldsymbol{\beta} - \boldsymbol{\beta})\|^2$ should be $\|\mathbf{B}(\mathbf{F}\boldsymbol{\beta} - \boldsymbol{\beta})\|^2$.