

**Figure 4.5** The group lasso ball (left panel) in  $\mathbb{R}^3$ , compared to the sparse group-lasso ball with  $\alpha = 0.5$  (right panel). Depicted are two groups with coefficients  $\theta_1 = (\beta_1, \beta_2) \in \mathbb{R}^2$  and  $\theta_2 = \beta_3 \in \mathbb{R}^1$ .