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$i = 1, \ldots, 8$ and $i = 13, \ldots, 20$. Figure 6 plots the predictive densities for $i = 9, 10, 11, 12$. We can see that each of the predictive densities has two peaks around -1 and 1 respectively. A Gaussian process model cannot give similar results because the conditional distribution is Gaussian and unimodal. A frequentist method using stable processes, as in Karcher et al. (2013), cannot give this result because its predictor is a single point.

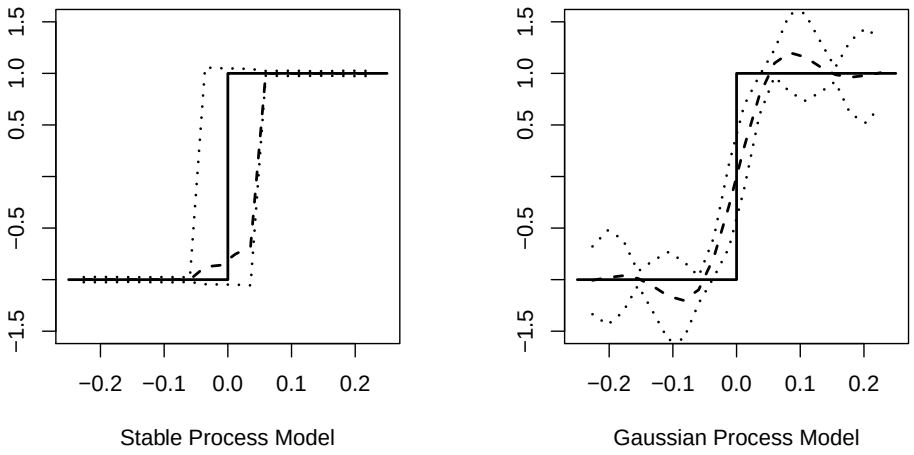


Figure 5: Credible limits given by the stable and Gaussian models. The solid lines denote the true function. The dashed lines denote the predictive median given by the two methods respectively. The dotted lines denote the 0.05 and 0.95 credible limits given by the two methods.

### 5.2 Determination of Gaussianity

To determine if the true process is Gaussian, for estimation efficiency, we only need to study the parameter estimation problem for $\alpha$.