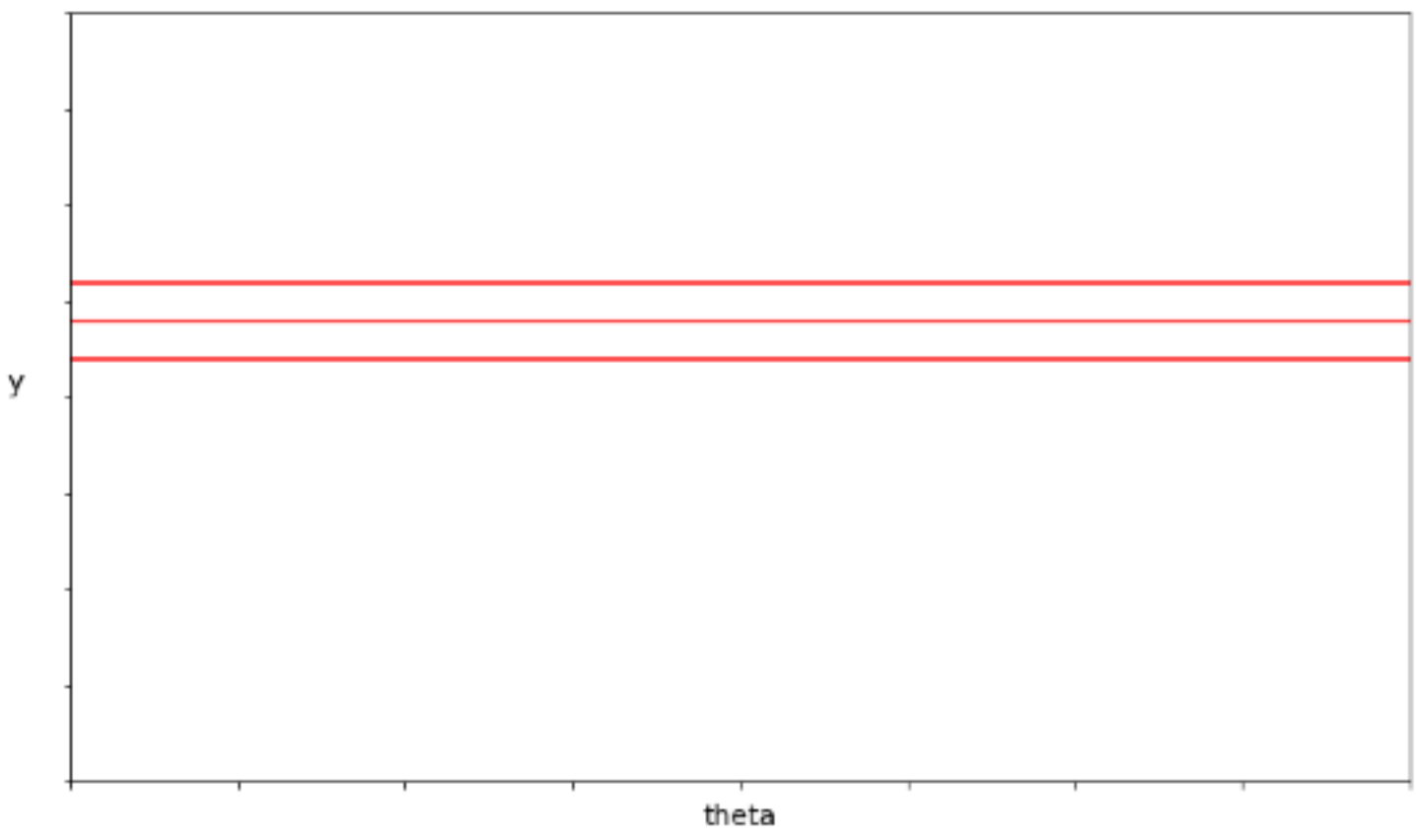
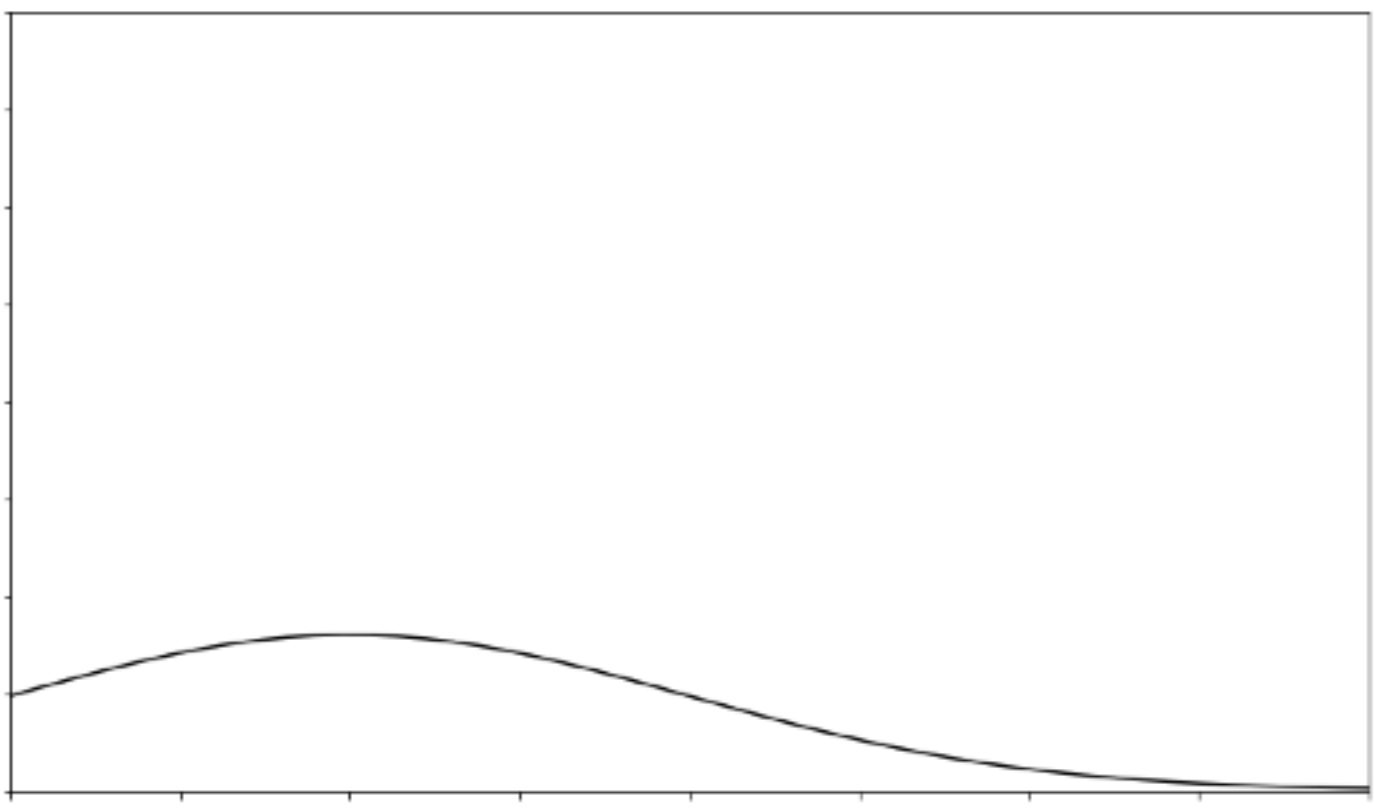

ABC

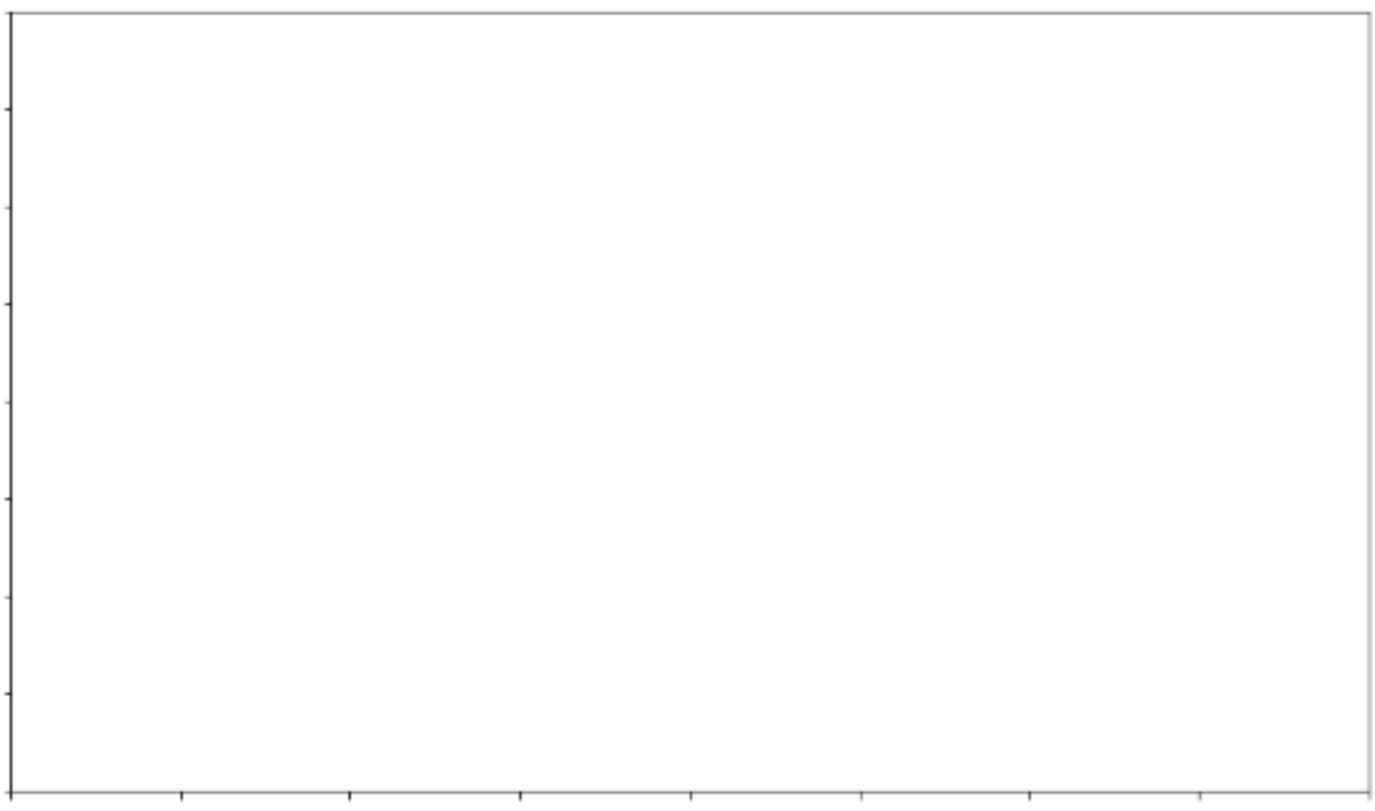
Example

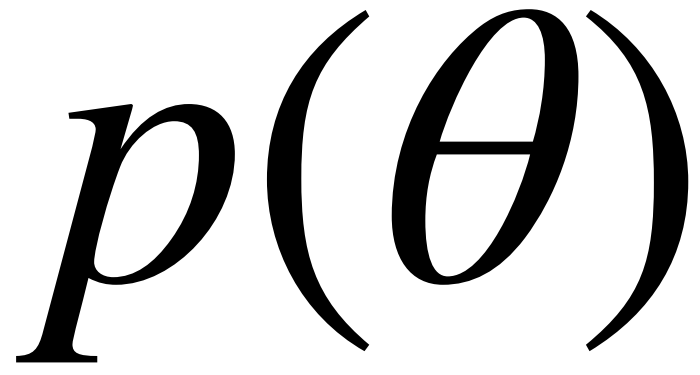
- Approximate

$$p\left(\theta \mid y^{\text{obs}}\right) \approx p\left(\theta \mid \mid \mid y^{\text{obs}} - y \mid \mid < \epsilon\right)$$

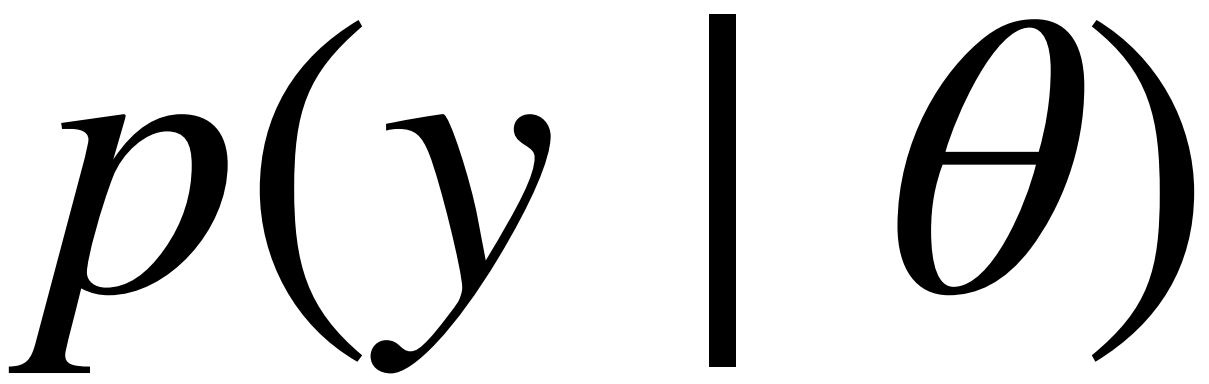

y
theta

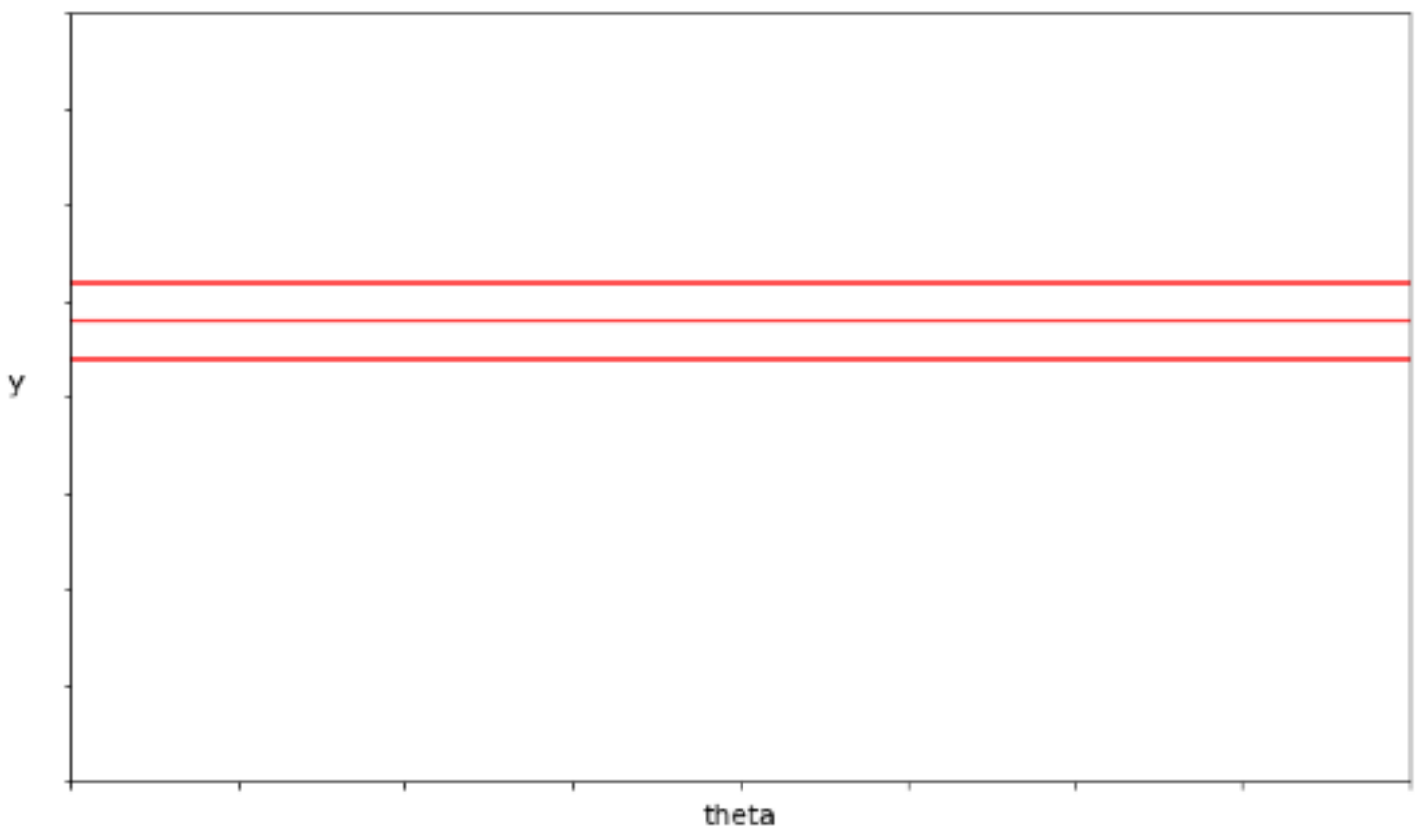


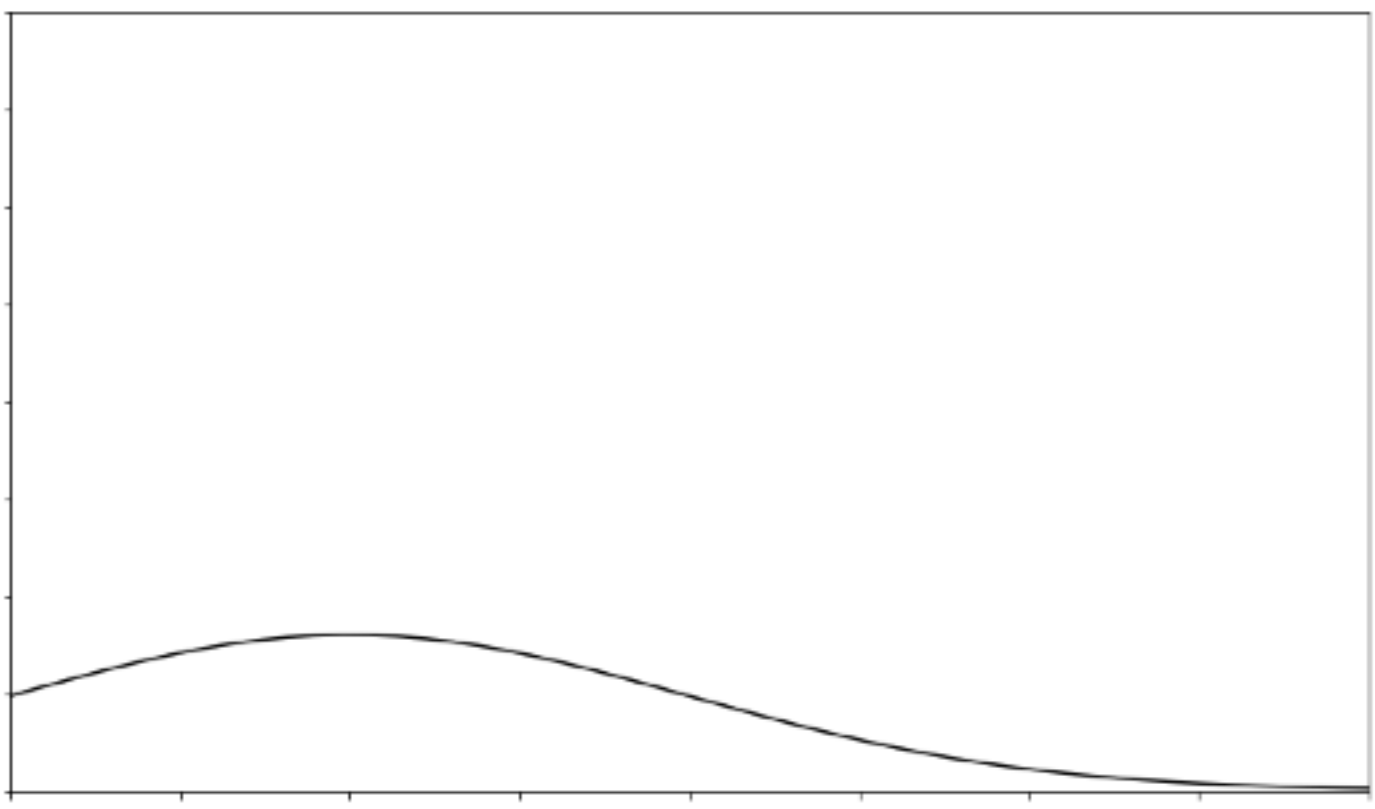


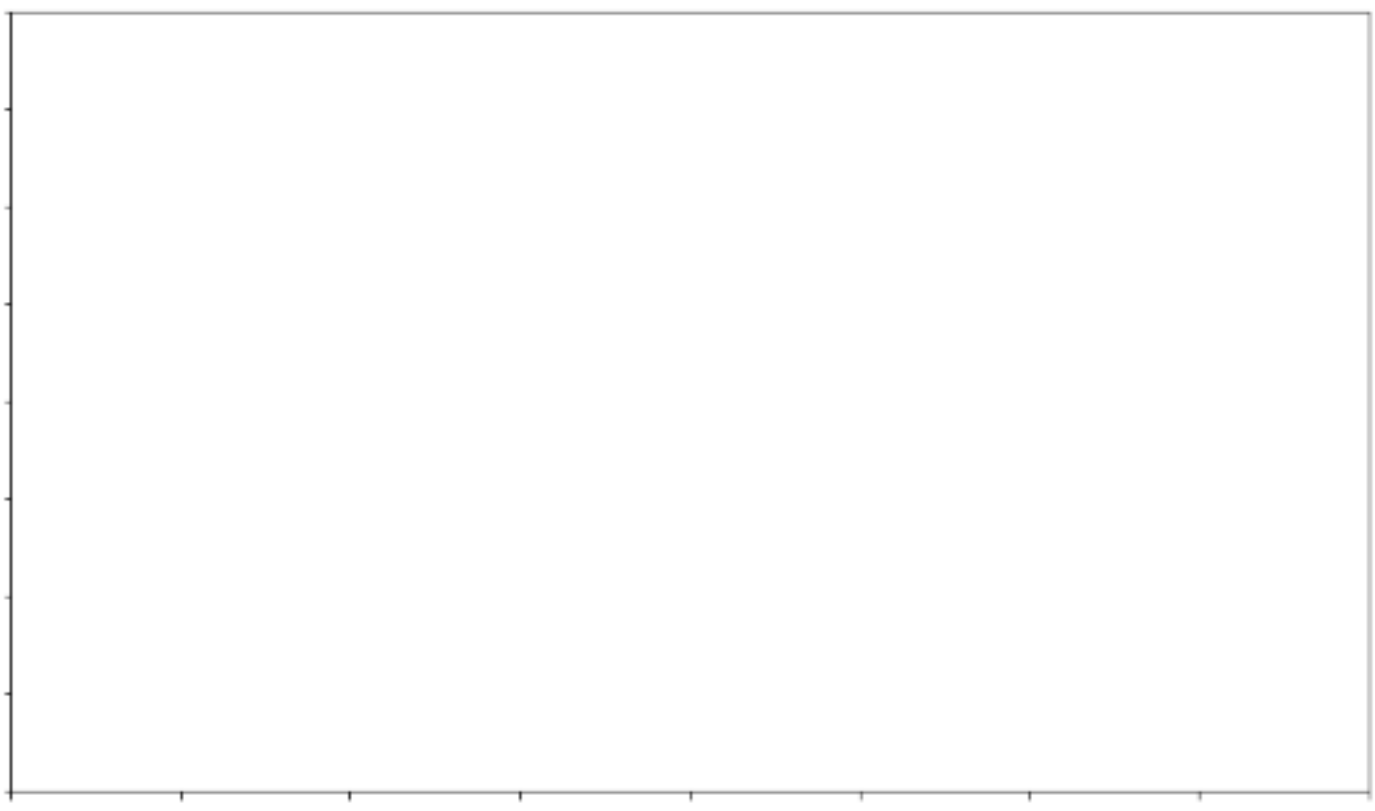

$p(\theta)$

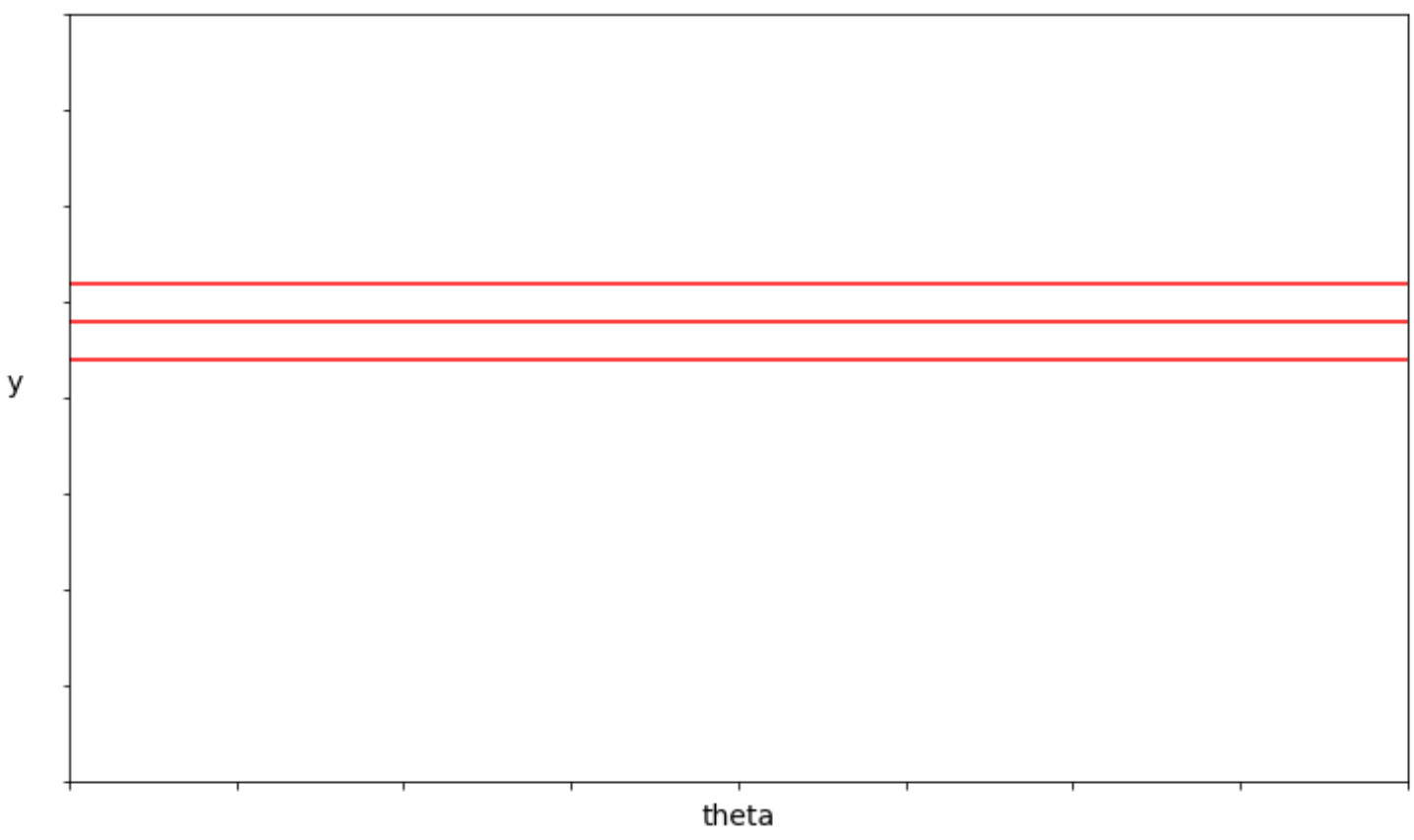
$$p\left(\theta \mid \mid \mid y^{\text{obs}} - y \mid \mid < \epsilon\right)$$

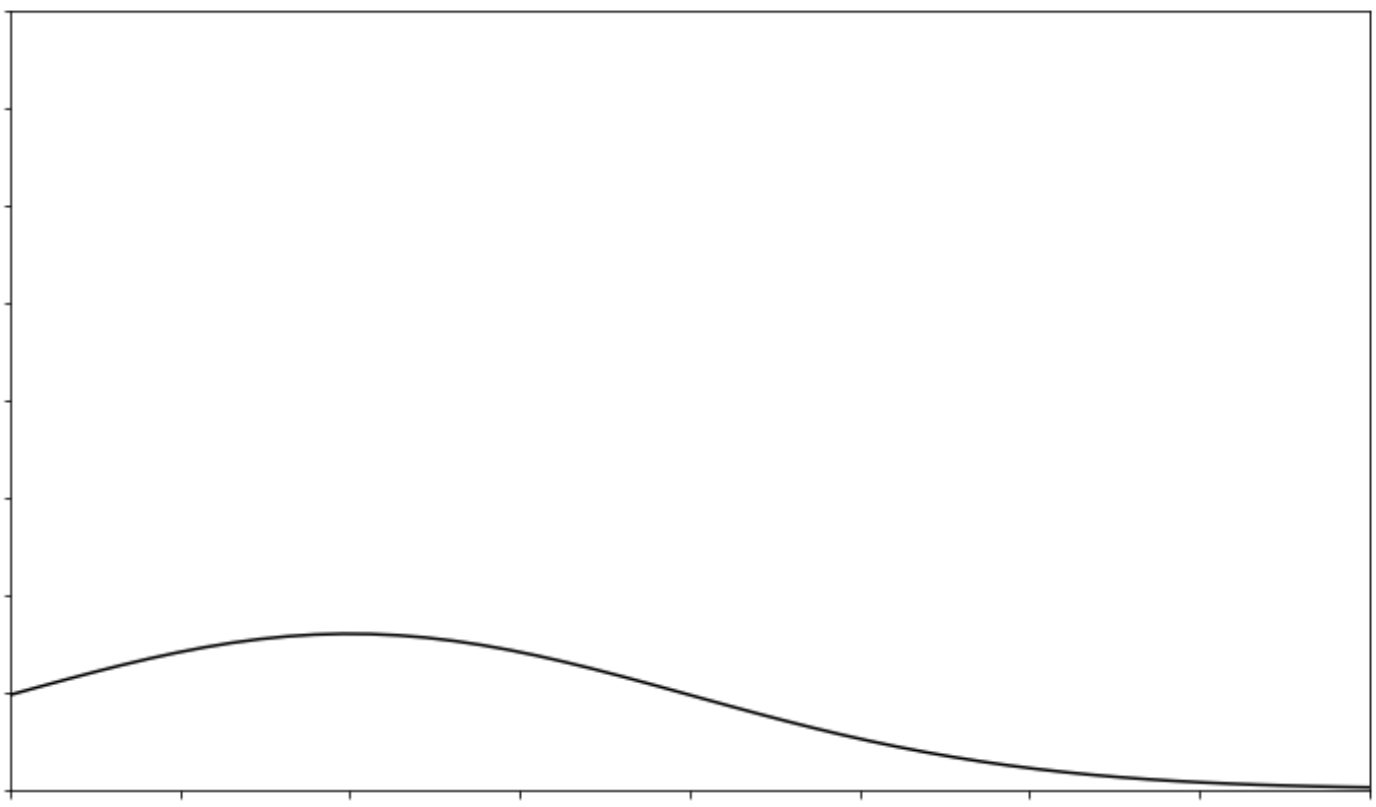


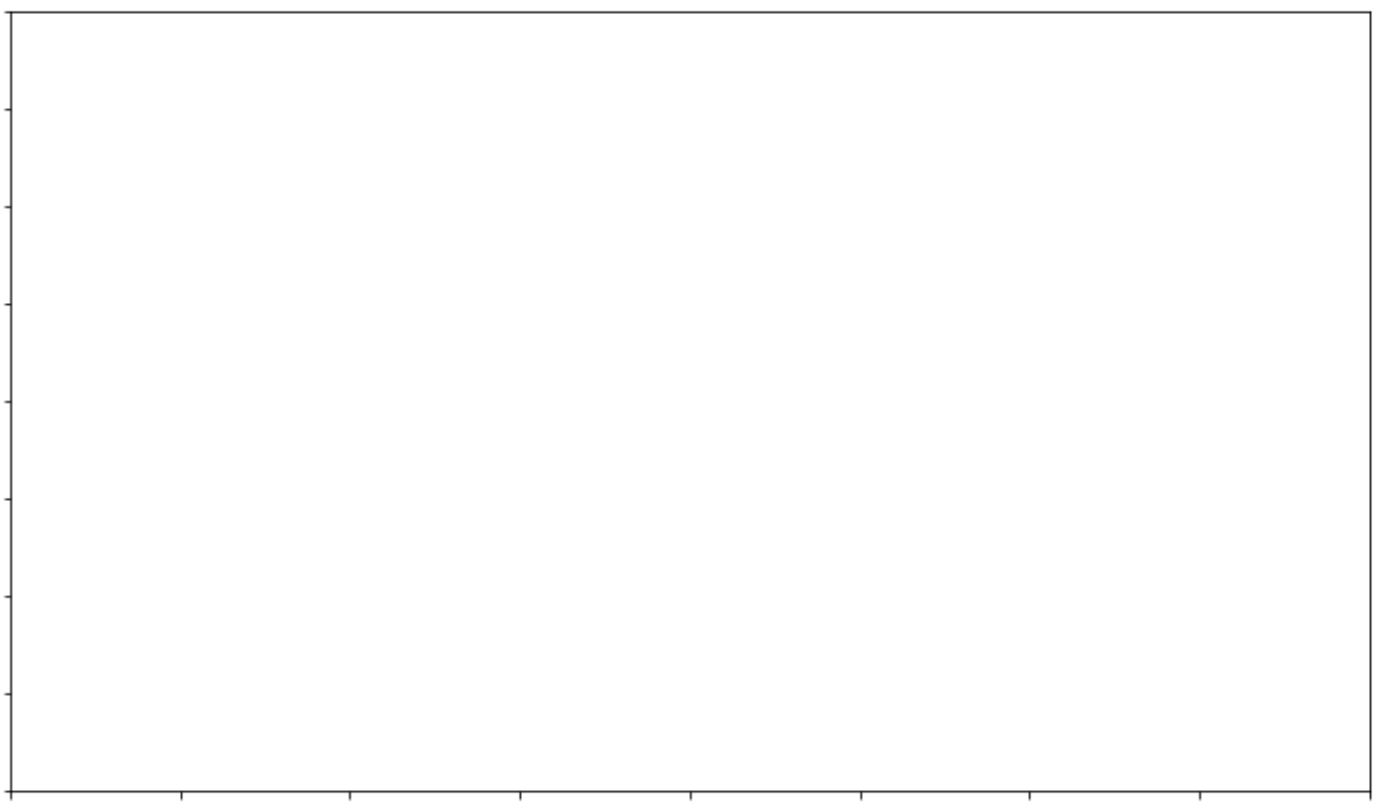

y
theta






y
theta





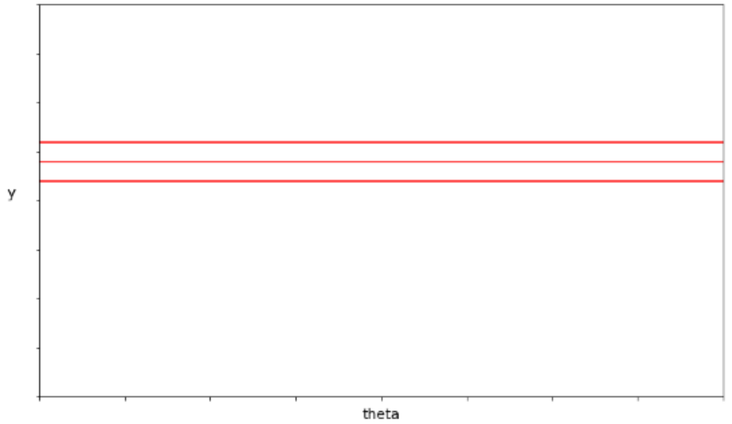
ABC

Example

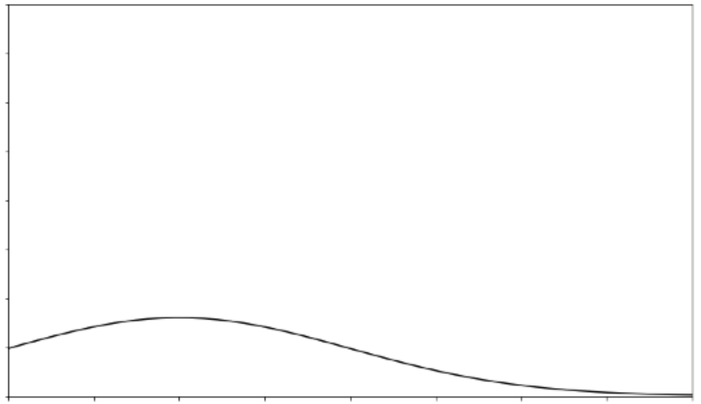
- Approximate

$$p\left(\theta \mid y^{\text{obs}}\right) \approx p\left(\theta \mid \lVert y^{\text{obs}} - y \rVert < \epsilon\right)$$

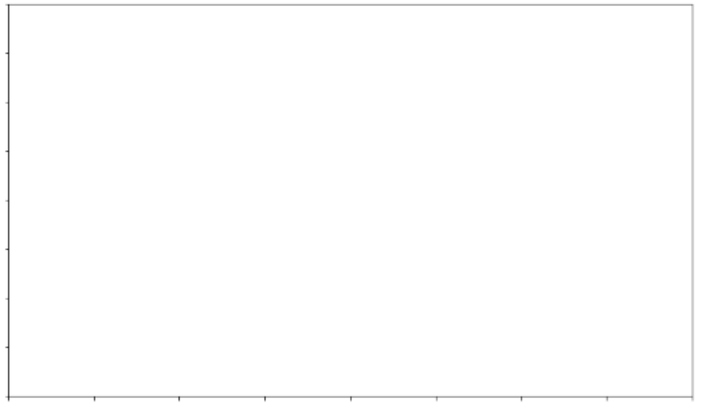
$p(y \mid \theta)$



$p(\theta)$



$$p\left(\theta \mid \lVert y^{\text{obs}} - y \rVert < \epsilon\right)$$



Likelihood-free Inference

What to do when observation is high dimensional?

- Use summary statistics
- Sufficient statistics generally not available
  - Strategies for automatic generation/selection
  - Often bespoke construction via domain/simulator expertise and prior simulations