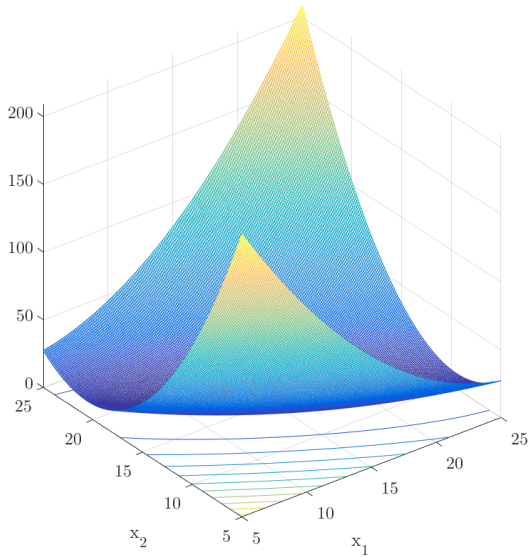
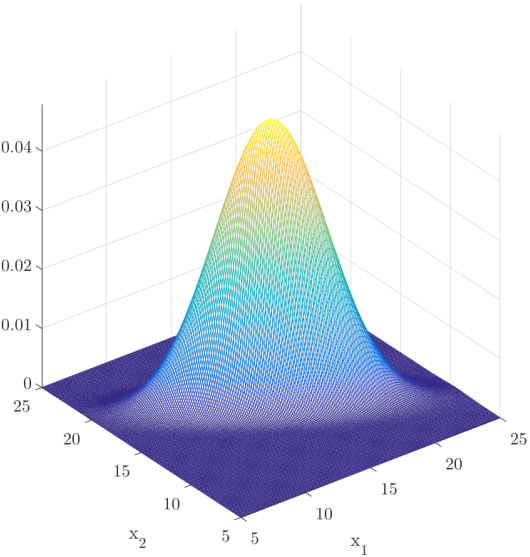
$(\vec{x}-\vec{\mu})^T \cdot \Sigma^{-1} \cdot (\vec{x}-\vec{\mu})$



$p(\vec{x}) = \frac{1}{2\pi|\Sigma|^{1/2}} \cdot e^{-\frac{1}{2}\cdot(\vec{x}-\vec{\mu})^T\cdot\Sigma^{-1}\cdot(\vec{x}-\vec{\mu})}$



$$U = \begin{pmatrix} -0.526 & -0.851 \\ -0.851 & +0.526 \end{pmatrix}$$

$$D = \begin{pmatrix} 0.910 & 0 \\ 0 & 12.090 \end{pmatrix}$$

$(\vec{x}-\vec{\mu})^T \cdot \Sigma^{-1} \cdot (\vec{x}-\vec{\mu}) = K^2$