$$E(\theta,\sigma^2) = -\sum_n \log\left(\sum_m \frac{\frac{1}{\|y\|}1}{(2\sigma^2)} exp\left(-\frac{\|x_n - y_m\|_2^2}{(2\sigma^2)}\right) + \frac{1}{\|x\|}\right)$$

where

- $x_i \in \mathbb{R}^2$
- $y_j \in \mathbb{R}^2$
- $\sigma \in \mathbb{R}$