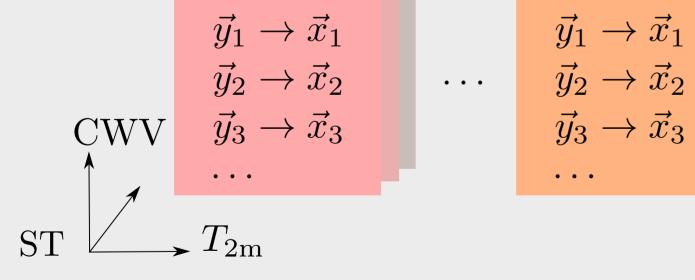
## A priori databases

$$\vec{y}_1 
ightharpoonup \vec{x}_1$$
 $\vec{y}_2 
ightharpoonup \vec{x}_2$ 
 $\vec{y}_3 
ightharpoonup \vec{x}_3$ 
 $\cdots$ 
 $\vec{y}_1 
ightharpoonup \vec{x}_1$ 
 $\vec{y}_2 
ightharpoonup \vec{x}_2$ 
 $\vec{y}_3 
ightharpoonup \vec{x}_3$ 
 $\cdots$ 

$$\vec{y}_1 \rightarrow \vec{x}_1$$
 $\vec{y}_2 \rightarrow \vec{x}_2$ 
 $\vec{y}_3 \rightarrow \vec{x}_3$ 
...



$$\vec{y}_1 
ightarrow \vec{x}_1$$
 $\vec{y}_2 
ightarrow \vec{x}_2$ 
 $\vec{y}_3 
ightarrow \vec{x}_3$ 
...

## **Observation**



## Posterior

$$w(\vec{y}, \vec{y}_1) \cdot \vec{x}_1$$
 $w(\vec{y}, \vec{y}_2) \cdot \vec{x}_2$ 
 $w(\vec{y}, \vec{y}_3) \cdot \vec{x}_3$ 
...

$$w(y, y_n) \propto (\vec{y} - \vec{y}_n)^T \mathbf{S}^{-1} (\vec{y} - \vec{y}_n)$$
$$\sum_n w(y, y_n) = 1$$



Retrieved state

 $\vec{x}$