

# UKF Localization - Example

Scenario: map known (with random data association)

But do not need Jacobians!

$\lambda$   
 $\alpha$   
 $\beta$

$\Downarrow$

hyper parameters  
that allow to compute the  
sigma points

$\Sigma_{x|x}$   $\rightarrow$  uncertainty introduced  
by the current measurement

UKF  $\rightarrow$  we do not linearize our system!

$\swarrow$  sigma points & 2<sup>nd</sup>-order approximation of Gaussian

$\nearrow$  accurate (always just an approximation)