

Parameters used in simulation tests for „Mobile robot 6D localization using 3D Gaussian mixture maps in GPS-denied scenarios“:

Parameter	Value
Scanner parameters	
Type	Velodyne VLP-16
Sampling frequency	100 000 points per second
Rotational speed	10 rpm
Robot parameters	
Applied linear velocity	0.1 m/s in most tests, 0.2 from 0.05 to 4 m/s in velocity comparison tets
Disturbance	
Std. deviation for linear velocity	0.01 m/s
Std. deviation for angular velocity	0.01 rad/s
Std. deviation for distance measurement	0.015 m
Std. deviation for azimuth angle measurement (in laser scanner)	0.001 rad
Std. deviation for azimuth angle measurement (in laser scanner)	0.0001 rad
EKF parameters	
Limit for innovation acceptance	0.7 m
Limit for translational correction acceptance	0.005 m