

# XEst Report

Real-time vision-based navigation module

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The Works

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## Chapter 1. QuEst+

### 1.1. configs:

TID: T00001

benchmark: KITTI

del\_T: 10.1

	QuEst	VEst
T err mean	0.0770	0.4431
T err std	0.0601	0.4198
T err med	0.0697	0.3877
T err Q1	0.0138	0.0147
T err Q3	0.1264	0.9133
Q err mean	0.0091	0.0286
Q err std	0.0065	0.0397
Q err med	0.0087	0.0044
Q err Q1	0.0028	0.0020
Q err Q3	0.0159	0.0543

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## Chapter 2. VEst+

### 2.1. configs:

TID: T00001

benchmark: KITTI

del\_T: 10.1

	VEst
T err mean	0.4431
T err std	0.4198
T err med	0.3877
T err Q1	0.0147
T err Q3	0.9133
Q err mean	0.1590
Q err std	0.0005
Q err med	0.1589
Q err Q1	0.1586
Q err Q3	0.1595

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## Chapter 3. QEKF

### 3.1. configs:

TID: T00001

benchmark: KITTI

del\_T: 10.1

	QuEst	VEst
GT-X T err mean	0.2404	0.4710
GT-X T err std	0.2047	0.3840
GT-X T err med	0.1696	0.4945
GT-X T err Q1	0.1012	0.0308
GT-X T err Q3	0.4445	0.8886
GT-X Q err mean	0.4995	0.4994
GT-X Q err std	0.0003	0.0005
GT-X Q err med	0.4996	0.4994
GT-X Q err Q1	0.4994	0.4992
GT-X Q err Q3	0.4997	0.4997
GT-X V err mean	0.4535	0.4787
GT-X V err std	0.3900	0.3921
GT-X V err med	0.4085	0.5140
GT-X V err Q1	0.0207	0.0202
GT-X V err Q3	0.9170	0.9145
Z-X T L1 mean	253.0427	807.7072
Z-X T L1 std	797.2667	2548.8639
Z-X T L1 med	0.5274	1.2636
Z-X T L1 Q1	0.3469	0.7752
Z-X T L1 Q3	1.0258	2.8521
Z-X Q L1 mean	1.0362	1.1056
Z-X Q L1 std	0.0257	0.1385
Z-X Q L1 med	1.0405	1.0223
Z-X Q L1 Q1	1.0128	1.0091
Z-X Q L1 Q3	1.0607	1.1938
Z-X V L1 mean	26.0334	84.1119
Z-X V L1 std	78.5716	262.1739
Z-X V L1 med	1.5105	1.6052
Z-X V L1 Q1	0.3681	0.3872
Z-X V L1 Q3	2.0932	2.0922
Z-X T L2 mean	279618.3519	4302131.3847
Z-X T L2 std	884228.0029	13604524.1789
Z-X T L2 med	0.1095	1.0000
Z-X T L2 Q1	0.0566	0.3815
Z-X T L2 Q3	0.8468	7.2603
Z-X Q L2 mean	1.0000	1.0000
Z-X Q L2 std	0.0000	0.0000
Z-X Q L2 med	1.0000	1.0000
Z-X Q L2 Q1	1.0000	1.0000
Z-X Q L2 Q3	1.0000	1.0000

### Chapter 3. QEKF

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<b>Z-X V L2 mean</b>	2795.4982	42786.0571
<b>Z-X V L2 std</b>	8835.0104	135296.3628
<b>Z-X V L2 med</b>	1.3364	1.4191
<b>Z-X V L2 Q1</b>	0.1070	0.1074
<b>Z-X V L2 Q3</b>	4.0049	3.8986