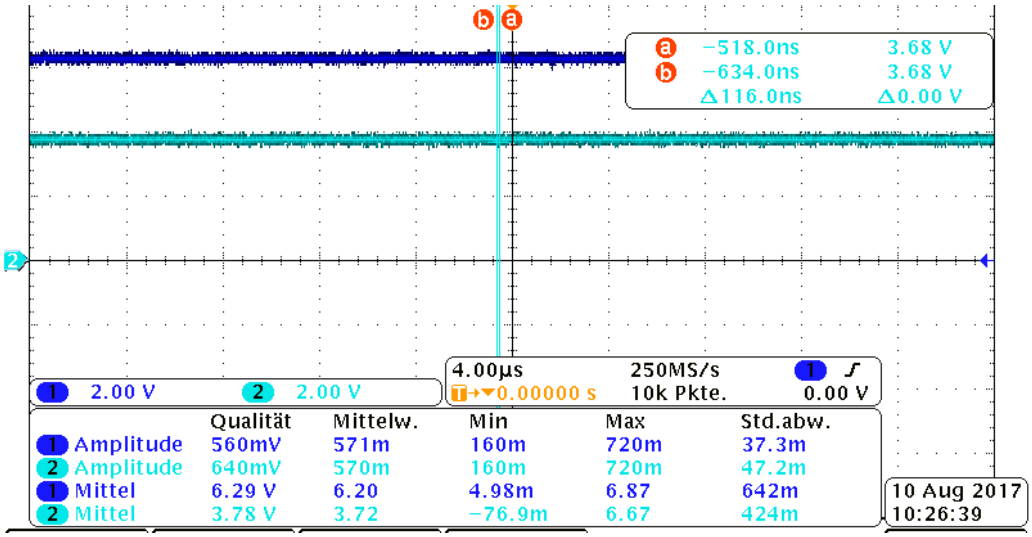
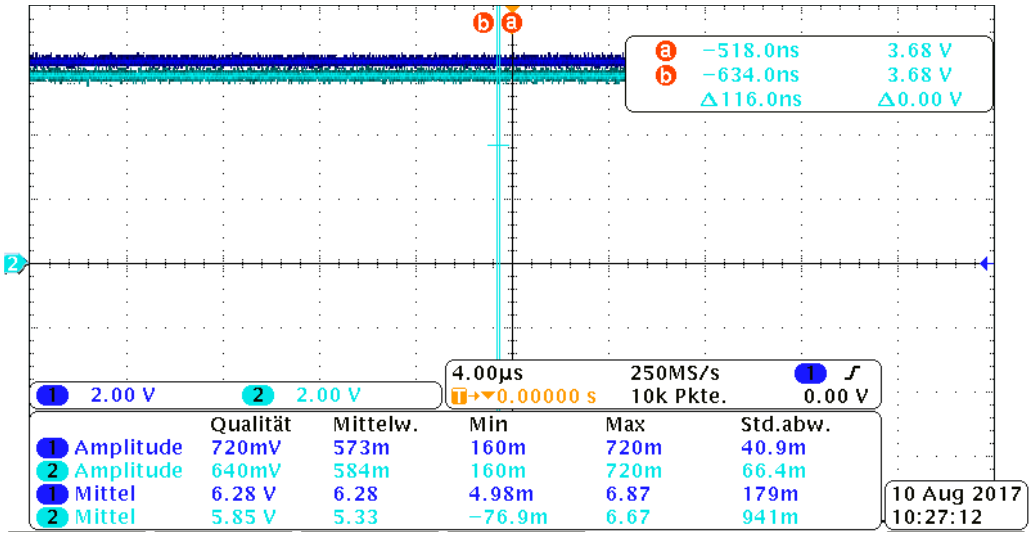
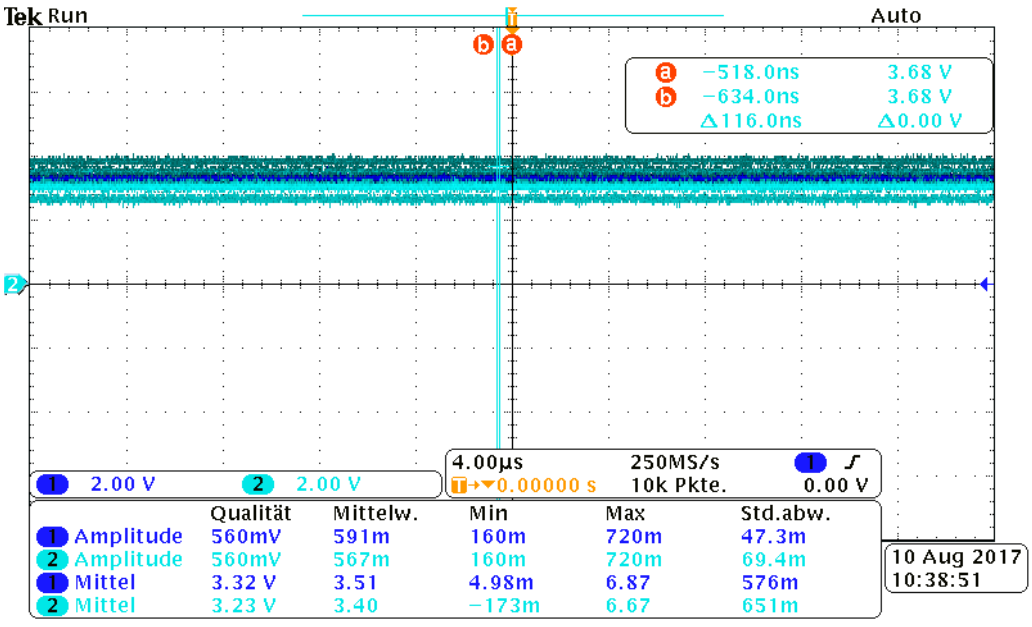
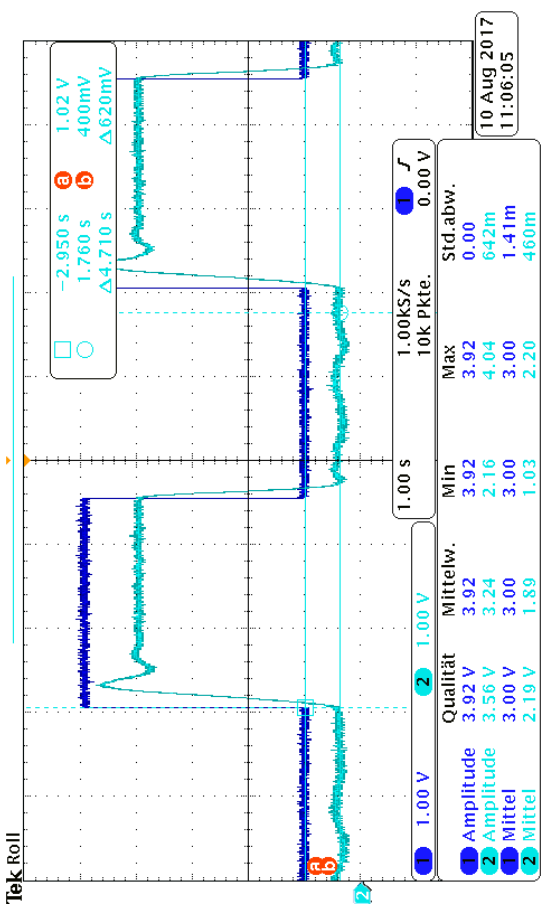
Schaltung ohne Regelung

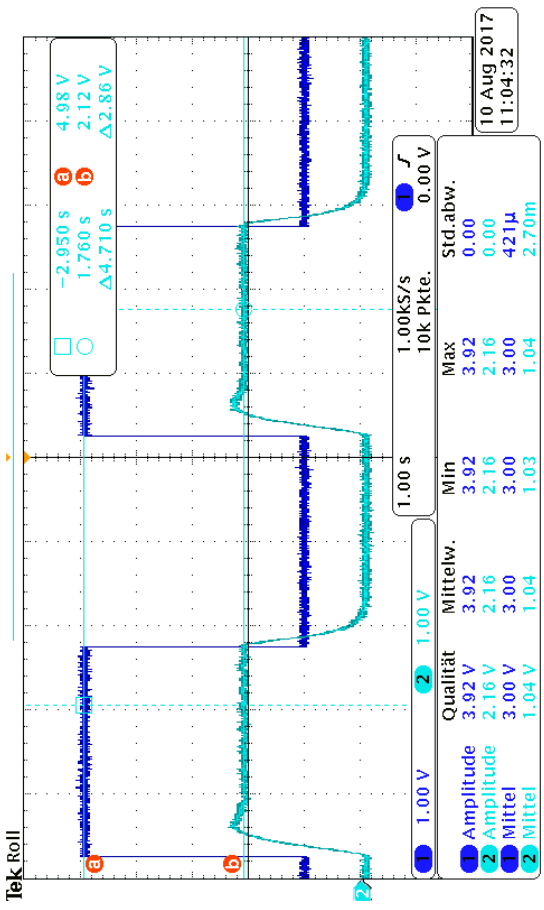


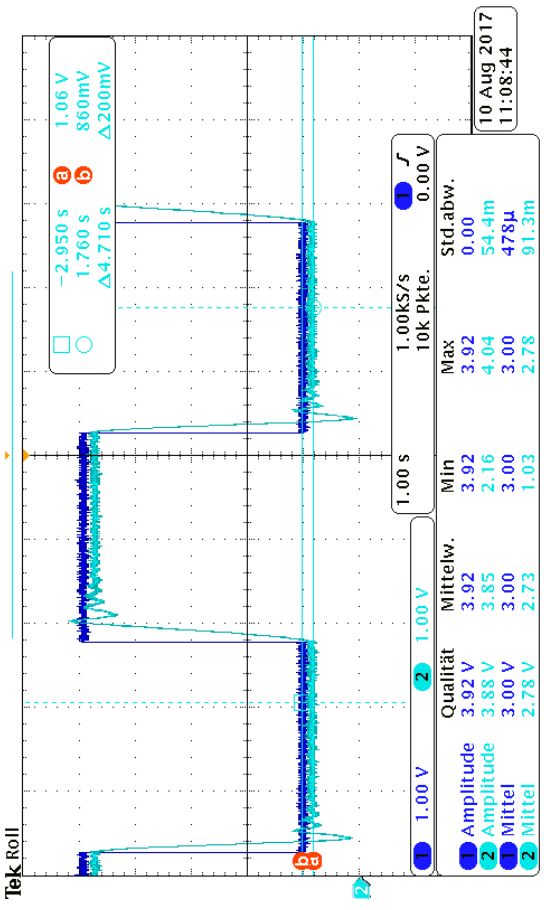


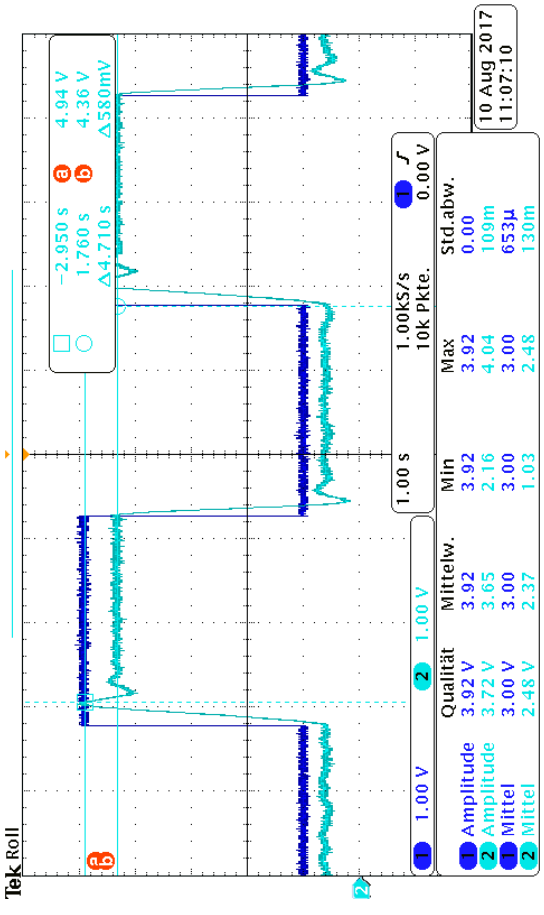


P-Regelung

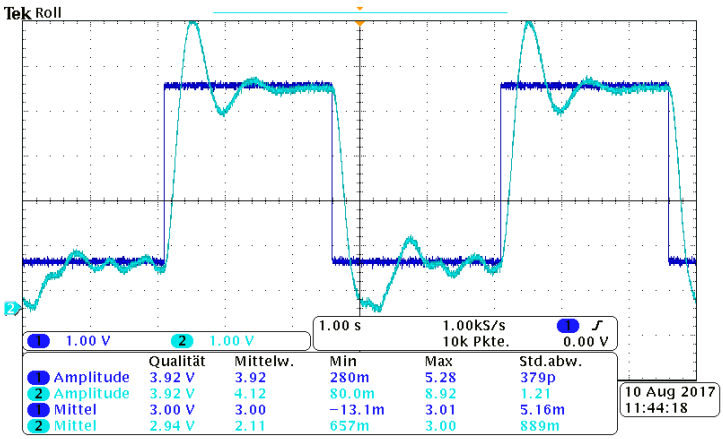

Tek Roll
-2.950 s a 1.02 V
1.760 s b 400mV
Δ4.710 s Δ620mV
1.00 s
1.00kS/s
10k Pkte.
0.00 V
1.00 V
1.00 V
10 Aug 2017
11:06:05
Qualität Mittelw. Min Max Std.abw.
Amplitude 3.92 V 3.92 3.92 3.92 0.00
Amplitude 3.56 V 3.24 2.16 4.04 642m
Mittel 3.00 V 3.00 3.00 3.00 1.41m
Mittel 2.19 V 1.89 1.03 2.20 460m

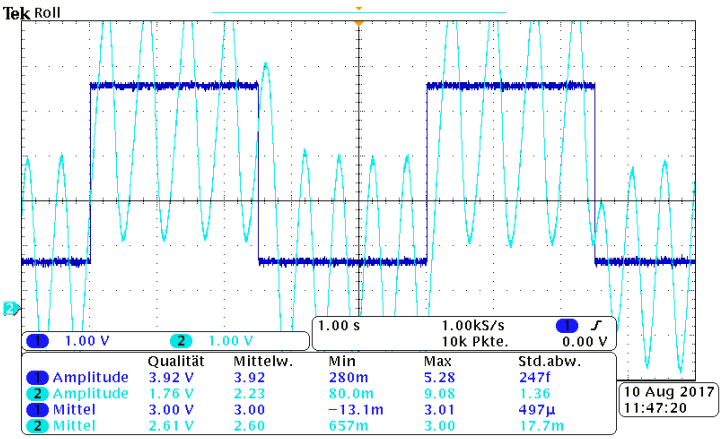

Tek Roll
-2.950 s a 4.98 V
1.760 s b 2.12 V
Δ4.710 s Δ2.86 V
1.00 s
1.00kS/s
10k Pkte.
0.00 V
1.00 V
1.00 V
10 Aug 2017
11:04:32
Qualität Mittelw. Min Max Std.abw.
Amplitude 3.92 V 3.92 3.92 3.92 0.00
Amplitude 2.16 V 2.16 2.16 2.16 0.00
Mittel 3.00 V 3.00 3.00 3.00 421µ
Mittel 1.04 V 1.04 1.03 1.04 2.70m

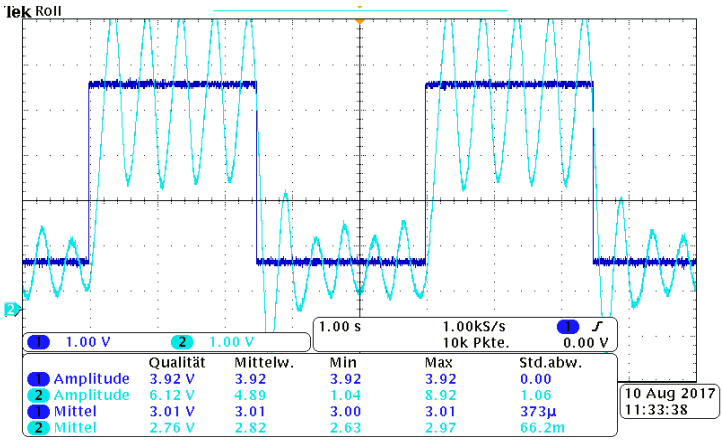

Tek Roll
-2.950 s a 1.06 V
1.760 s b 860mV
Δ4.710 s Δ200mV
1.00 s
1.00kS/s
10k Pkte.
0.00 V
1.00 V
1.00 V
10 Aug 2017
11:08:44
Qualität Mittelw. Min Max Std.abw.
Amplitude 3.92 V 3.92 3.92 3.92 0.00
Amplitude 3.88 V 3.85 2.16 4.04 54.4m
Mittel 3.00 V 3.00 3.00 3.00 478µ
Mittel 2.78 V 2.73 1.03 2.78 91.3m

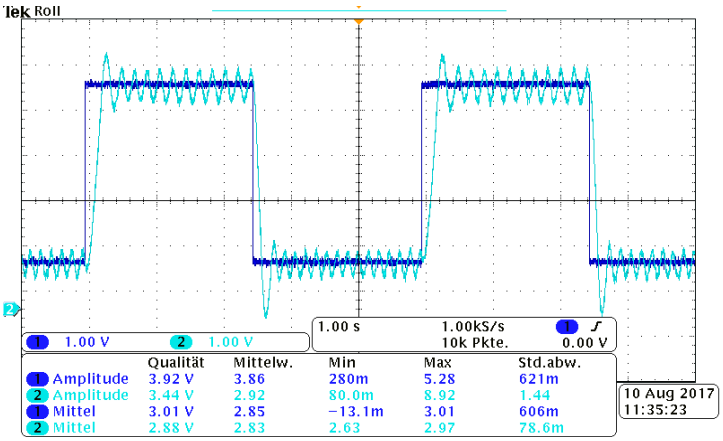

Tek Roll
-2.950 s a 4.94 V
1.760 s b 4.36 V
Δ4.710 s Δ580mV
1.00 s
1.00kS/s
10k Pkte.
0.00 V
1.00 V
1.00 V
10 Aug 2017
11:07:10
Qualität Mittelw. Min Max Std.abw.
Amplitude 3.92 V 3.92 3.92 3.92 0.00
Amplitude 3.72 V 3.65 2.16 4.04 109m
Mittel 3.00 V 3.00 3.00 3.00 653µ
Mittel 2.48 V 2.37 1.03 2.48 130m

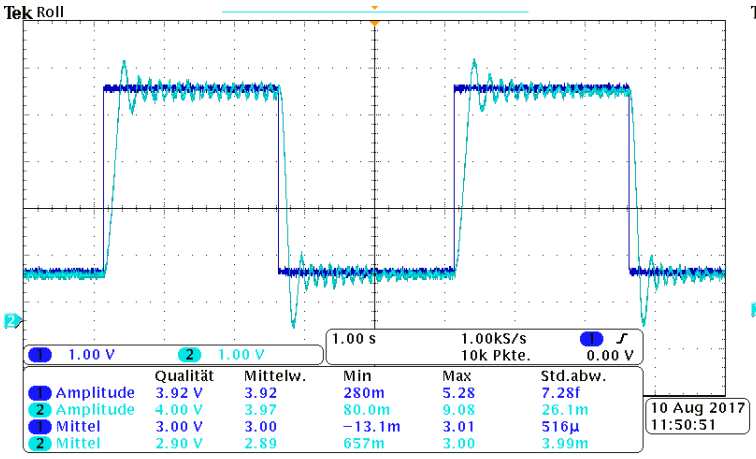
PI-Regelung

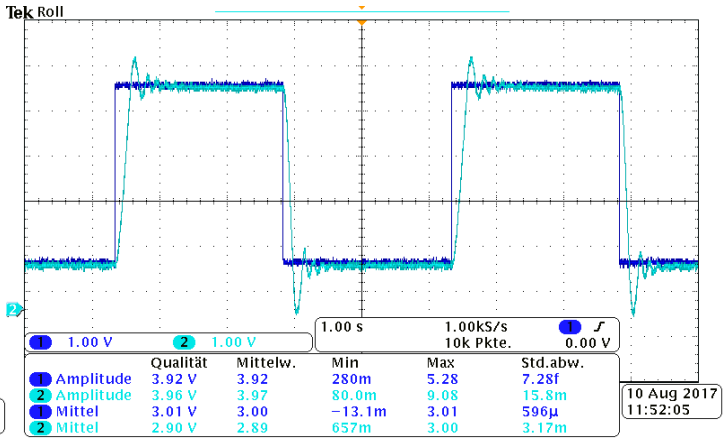

Tek Roll
1.00 V
2 1.00 V
1.00 s
1.00kS/s
10k Pkte.
1 0.00 V
Qualität Mittelw. Min Max Std.abw.
1 Amplitude 3.92 V 3.92 280m 5.28 379p
2 Amplitude 3.92 V 4.12 80.0m 8.92 1.21
1 Mittel 3.00 V 3.00 −13.1m 3.01 5.16m
2 Mittel 2.94 V 2.11 657m 3.00 889m
10 Aug 2017
11:44:18


Tek Roll
1.00 V
2 1.00 V
1.00 s
1.00kS/s
10k Pkte.
1 0.00 V
Qualität Mittelw. Min Max Std.abw.
1 Amplitude 3.92 V 3.92 280m 5.28 247f
2 Amplitude 1.76 V 2.23 80.0m 9.08 1.36
1 Mittel 3.00 V 3.00 −13.1m 3.01 497µ
2 Mittel 2.61 V 2.60 657m 3.00 17.7m
10 Aug 2017
11:47:20

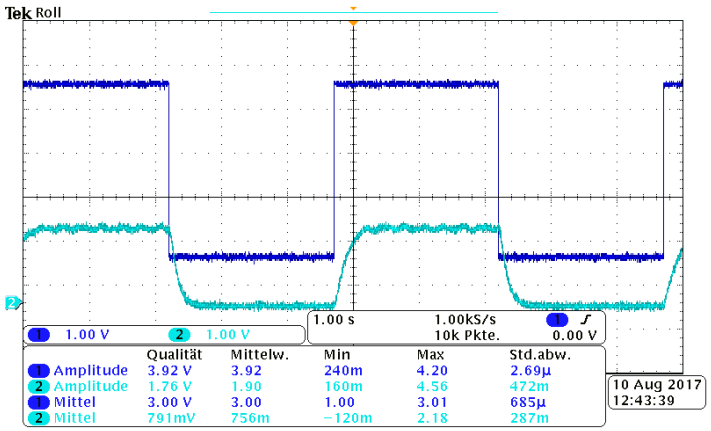

Tek Roll
1.00 V
2 1.00 V
1.00 s
1.00kS/s
10k Pkte.
1 0.00 V
Qualität Mittelw. Min Max Std.abw.
1 Amplitude 3.92 V 3.92 3.92 3.92 0.00
2 Amplitude 6.12 V 4.89 1.04 8.92 1.06
1 Mittel 3.01 V 3.01 3.00 3.01 373µ
2 Mittel 2.76 V 2.82 2.63 2.97 66.2m
10 Aug 2017
11:33:38

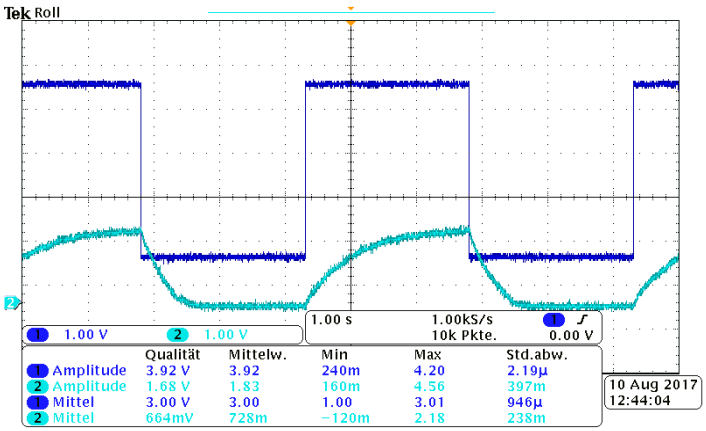

Tek Roll
1.00 V
2 1.00 V
1.00 s
1.00kS/s
10k Pkte.
1 0.00 V
Qualität Mittelw. Min Max Std.abw.
1 Amplitude 3.92 V 3.86 280m 5.28 621m
2 Amplitude 3.44 V 2.92 80.0m 8.92 1.44
1 Mittel 3.01 V 2.85 −13.1m 3.01 606m
2 Mittel 2.88 V 2.83 2.63 2.97 78.6m
10 Aug 2017
11:35:23

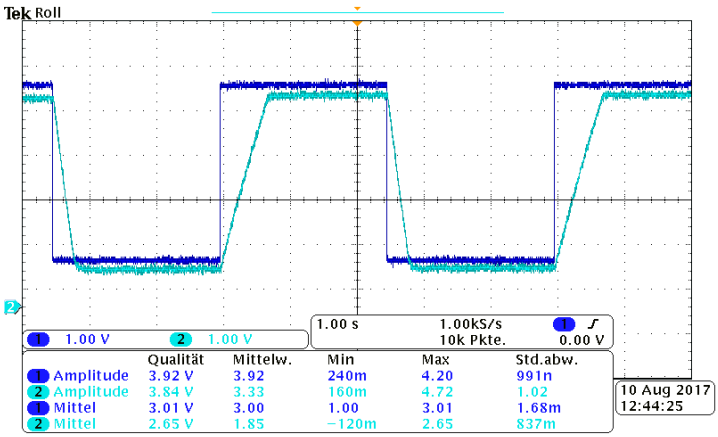

Tek Roll
1.00 V
2 1.00 V
1.00 s
1.00kS/s
10k Pkte.
1 0.00 V
Qualität Mittelw. Min Max Std.abw.
1 Amplitude 3.92 V 3.92 280m 5.28 7.28f
2 Amplitude 4.00 V 3.97 80.0m 9.08 26.1m
1 Mittel 3.00 V 3.00 −13.1m 3.01 516µ
2 Mittel 2.90 V 2.89 657m 3.00 3.99m
10 Aug 2017
11:50:51

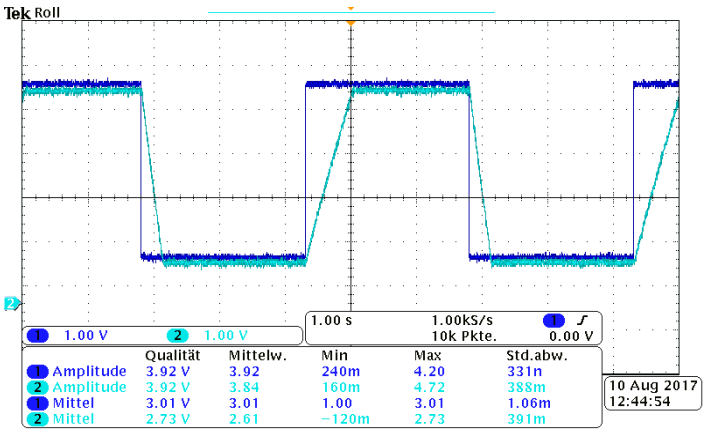

Tek Roll
1.00 V
2 1.00 V
1.00 s
1.00kS/s
10k Pkte.
1 0.00 V
Qualität Mittelw. Min Max Std.abw.
1 Amplitude 3.92 V 3.92 280m 5.28 7.28f
2 Amplitude 3.96 V 3.97 80.0m 9.08 15.8m
1 Mittel 3.01 V 3.00 −13.1m 3.01 596µ
2 Mittel 2.90 V 2.89 657m 3.00 3.17m
10 Aug 2017
11:52:05

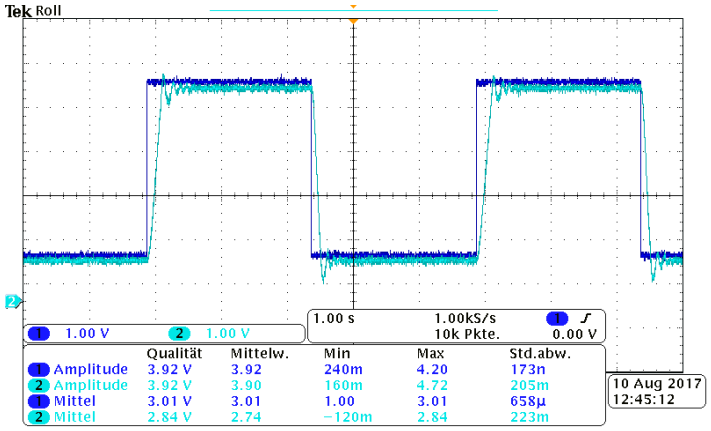
PD-Regelung

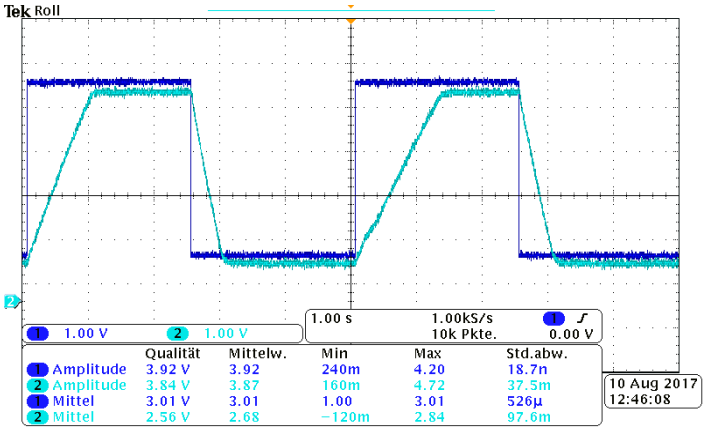

Tek Roll
1.00 V
2 1.00 V
1.00 s
1.00kS/s
10k Pkte.
0.00 V
Qualität Mittelw. Min Max Std.abw.
1 Amplitude 3.92 V 3.92 240m 4.20 2.69µ
2 Amplitude 1.76 V 1.90 160m 4.56 472m
1 Mittel 3.00 V 3.00 1.00 3.01 685µ
2 Mittel 791mV 756m −120m 2.18 287m
10 Aug 2017
12:43:39


Tek Roll
1.00 V
2 1.00 V
1.00 s
1.00kS/s
10k Pkte.
0.00 V
Qualität Mittelw. Min Max Std.abw.
1 Amplitude 3.92 V 3.92 240m 4.20 2.19µ
2 Amplitude 1.68 V 1.83 160m 4.56 397m
1 Mittel 3.00 V 3.00 1.00 3.01 946µ
2 Mittel 664mV 728m −120m 2.18 238m
10 Aug 2017
12:44:04

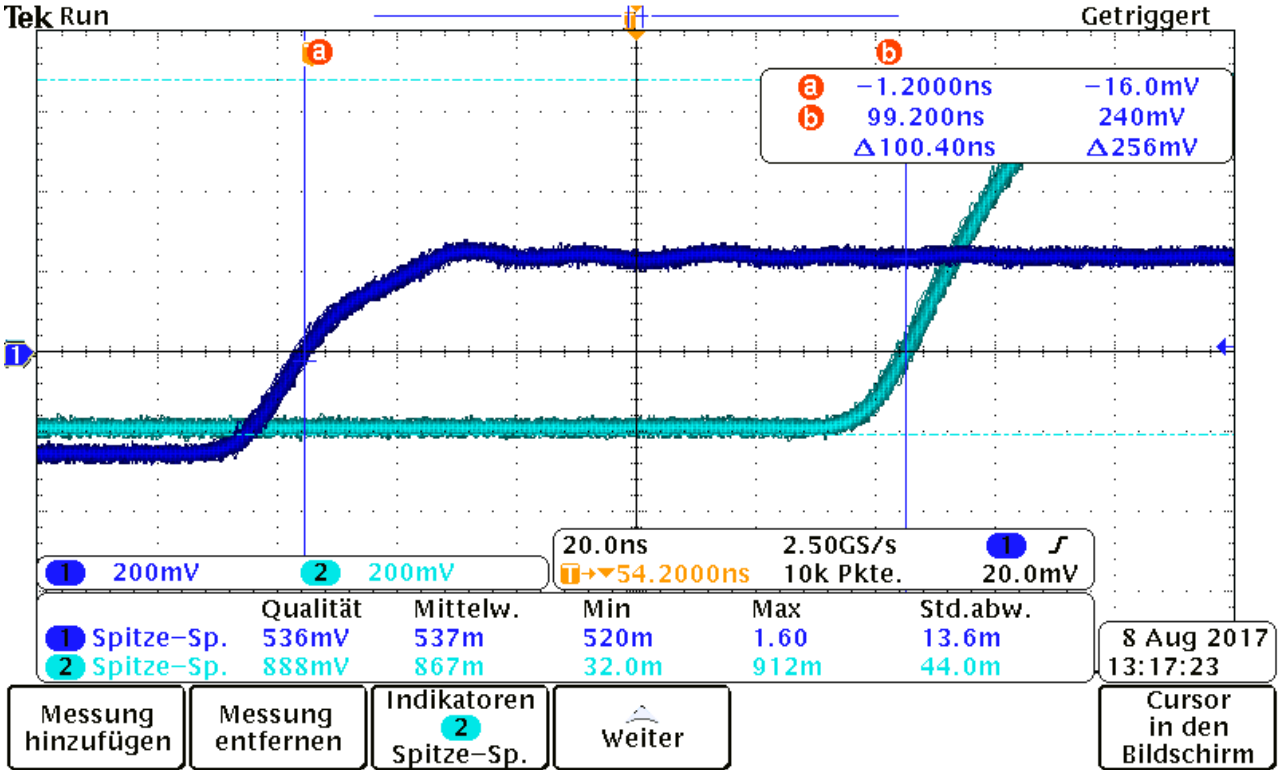

Tek Roll
1.00 V
2 1.00 V
1.00 s
1.00kS/s
10k Pkte.
0.00 V
Qualität Mittelw. Min Max Std.abw.
1 Amplitude 3.92 V 3.92 240m 4.20 991n
2 Amplitude 3.84 V 3.33 160m 4.72 1.02
1 Mittel 3.01 V 3.00 1.00 3.01 1.68m
2 Mittel 2.65 V 1.85 −120m 2.65 837m
10 Aug 2017
12:44:25

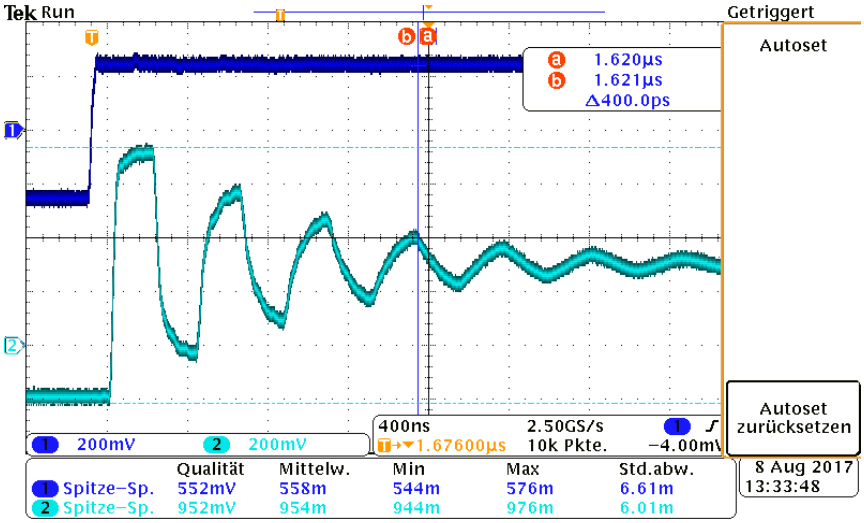

Tek Roll
1.00 V
2 1.00 V
1.00 s
1.00kS/s
10k Pkte.
0.00 V
Qualität Mittelw. Min Max Std.abw.
1 Amplitude 3.92 V 3.92 240m 4.20 331n
2 Amplitude 3.92 V 3.84 160m 4.72 388m
1 Mittel 3.01 V 3.01 1.00 3.01 1.06m
2 Mittel 2.73 V 2.61 −120m 2.73 391m
10 Aug 2017
12:44:54

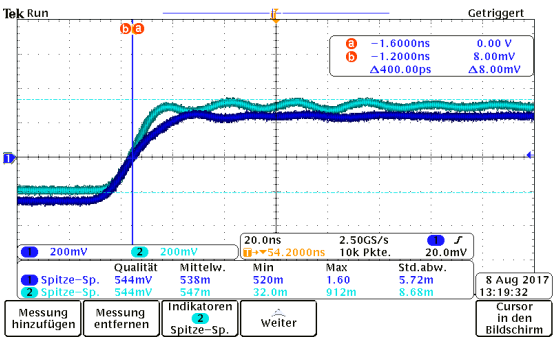

Tek Roll
1.00 V
2 1.00 V
1.00 s
1.00kS/s
10k Pkte.
0.00 V
Qualität Mittelw. Min Max Std.abw.
1 Amplitude 3.92 V 3.92 240m 4.20 173n
2 Amplitude 3.92 V 3.90 160m 4.72 205m
1 Mittel 3.01 V 3.01 1.00 3.01 658µ
2 Mittel 2.84 V 2.74 −120m 2.84 223m
10 Aug 2017
12:45:12

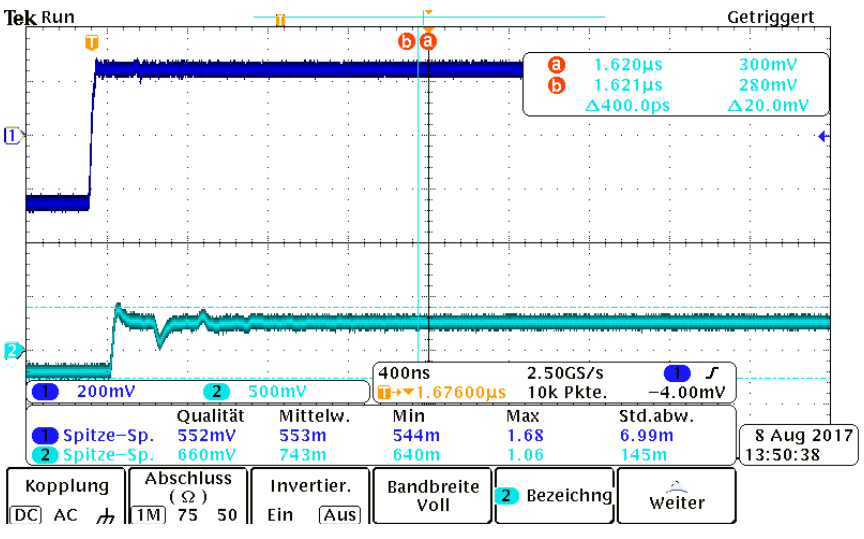

Tek Roll
1.00 V
2 1.00 V
1.00 s
1.00kS/s
10k Pkte.
0.00 V
Qualität Mittelw. Min Max Std.abw.
1 Amplitude 3.92 V 3.92 240m 4.20 18.7n
2 Amplitude 3.84 V 3.87 160m 4.72 37.5m
1 Mittel 3.01 V 3.01 1.00 3.01 526µ
2 Mittel 2.56 V 2.68 −120m 2.84 97.6m
10 Aug 2017
12:46:08

einkleben in Abschnitt Versuch 2

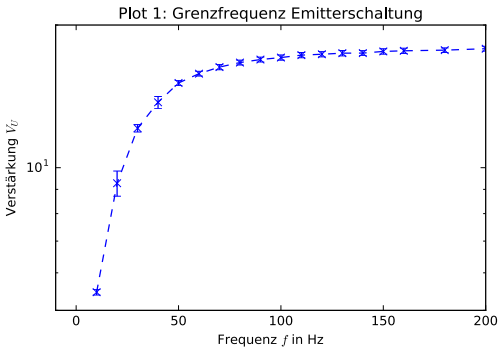


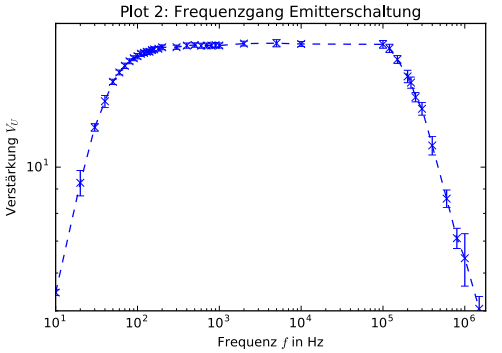






f	U_E	dU_E	U_A	dU_A	V_U	dV_U
10	0.531	0.005	2.9	0.029	5.46	0.08
20	0.536	0.005	4.97	0.3	9.27	0.57
30	0.535	0.005	6.48	0.1	12.11	0.22
40	0.535	0.005	7.35	0.2	13.74	0.4
50	0.544	0.006	8.21	0.05	15.09	0.19
60	0.544	0.005	8.59	0.06	15.79	0.18
70	0.544	0.006	8.87	0.06	16.31	0.21
80	0.543	0.006	9.05	0.04	16.67	0.2
90	0.544	0.006	9.2	0.04	16.91	0.2
100	0.544	0.006	9.29	0.06	17.08	0.22
110	0.544	0.006	9.4	0.06	17.28	0.22
120	0.544	0.006	9.44	0.06	17.35	0.22
130	0.544	0.006	9.49	0.07	17.44	0.23
140	0.545	0.006	9.51	0.05	17.45	0.21
150	0.544	0.006	9.57	0.07	17.59	0.23
160	0.544	0.006	9.6	0.06	17.65	0.22
180	0.544	0.005	9.63	0.06	17.7	0.2
200	0.543	0.006	9.68	0.04	17.83	0.21
300	0.545	0.005	9.72	0.04	17.83	0.18
400	0.543	0.006	9.76	0.06	17.97	0.23
500	0.542	0.005	9.77	0.05	18.03	0.19
600	0.545	0.006	9.79	0.05	17.96	0.22
700	0.544	0.006	9.78	0.05	17.98	0.22
800	0.544	0.006	9.78	0.05	17.98	0.22
900	0.544	0.006	9.8	0.05	18.01	0.22
1000	0.545	0.006	9.8	0.05	17.98	0.22
2000	0.54	0.003	9.8	0.1	18.15	0.21
5000	0.539	0.003	9.8	0.16	18.18	0.31
10000	0.541	0.003	9.8	0.11	18.11	0.23
100k	0.532	0.003	9.62	0.17	18.08	0.34
120k	0.53	0.003	9.4	0.18	17.74	0.35
150k	0.53	0.003	8.91	0.16	16.81	0.32
200k	0.528	0.003	8.18	0.24	15.49	0.46
220k	0.53	0.003	7.97	0.21	15.04	0.41
250k	0.528	0.003	7.4	0.16	14.02	0.31
300k	0.526	0.002	6.97	0.21	13.25	0.4
400k	0.526	0.003	5.84	0.26	11.1	0.5
600k	0.525	0.003	4.51	0.19	8.59	0.37
800k	0.524	0.003	3.72	0.18	7.1	0.35
1000k	0.523	0.009	3.37	0.42	6.44	0.81
1500k	0.515	0.003	2.6	0.16	5.05	0.31





f	U_E	dU_E	U_A	dU_A	V_U	dV_U
10	0.545	0.006	0.175	0.015	0.32	0.03
20	0.545	0.006	0.27	0.006	0.5	0.01
30	0.545	0.005	0.349	0.011	0.64	0.02
40	0.543	0.005	0.4	0.014	0.74	0.03
50	0.544	0.006	0.433	0.007	0.8	0.02
60	0.544	0.006	0.458	0.006	0.84	0.01
70	0.543	0.005	0.475	0.006	0.87	0.01
80	0.546	0.006	0.488	0.006	0.89	0.01
90	0.543	0.006	0.495	0.006	0.91	0.01
100	0.544	0.006	0.506	0.005	0.93	0.01
150	0.543	0.005	0.525	0.006	0.97	0.01
200	0.543	0.005	0.532	0.006	0.98	0.01
350	0.544	0.006	0.538	0.004	0.99	0.01
500	0.543	0.005	0.538	0.005	0.99	0.01
500	0.543	0.005	0.538	0.005	0.99	0.01
1000	0.544	0.005	0.538	0.004	0.99	0.01
2000	0.543	0.006	0.541	0.005	1.0	0.01
10k	0.545	0.005	0.54	0.005	0.99	0.01
100k	0.544	0.006	0.544	0.005	1.0	0.01
1000k	0.54	0.007	0.54	0.005	1.0	0.02