

# **Simulation 4.2**

Part2

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The aim of the report

Feedbacks

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# **Chapter 1**

## **Summary**

## 1.1 MSE for $n = 1024$

$k_{Nz}^\sigma$	120	140	160	180	200	220	240	260	280
1000 <sub>25</sub> <sup>0.002</sup>	3.7510E-03	1.5359E-04	1.4886E-04	1.1267E-04	1.1193E-04	1.1499E-04	1.0425E-04	9.2970E-05	9.7057E-05
2500 <sub>25</sub> <sup>0.002</sup>	1.2722E-02	1.2214E-02	4.0790E-03	1.9711E-05	1.8968E-05	1.9282E-05	1.6785E-05	1.7219E-05	1.5758E-05
5000 <sub>25</sub> <sup>0.002</sup>	1.9398E-02	3.4058E-04	1.0898E-05	5.9227E-06	5.4119E-06	6.8289E-06	4.8528E-06	4.9149E-06	4.1591E-06
1000 <sub>25</sub> <sup>0.020</sup>	1.0834E-02	2.4656E-03	1.8849E-04	1.8243E-04	2.5023E-04	1.3340E-04	1.6720E-04	1.6274E-04	1.6463E-04
2500 <sub>25</sub> <sup>0.020</sup>	2.0073E-04	2.7701E-04	1.2235E-04	1.4974E-04	1.0514E-04	1.0289E-04	8.9723E-05	8.0925E-05	7.9188E-05
5000 <sub>25</sub> <sup>0.020</sup>	1.3132E-02	1.6172E-02	1.2890E-03	1.7239E-04	1.5313E-04	9.2207E-05	1.0996E-04	8.1104E-05	1.2316E-04
1000 <sub>50</sub> <sup>0.002</sup>	4.2603E-02	3.9219E-02	3.7093E-02	3.1802E-02	3.1726E-02	1.5147E-03	3.5885E-04	9.1813E-05	8.3143E-05
2500 <sub>50</sub> <sup>0.002</sup>	4.2891E-02	4.1636E-02	3.6892E-02	2.6933E-02	3.4735E-02	1.0371E-02	2.1189E-02	1.4685E-04	1.7445E-05
5000 <sub>50</sub> <sup>0.002</sup>	4.2159E-02	4.2966E-02	3.8581E-02	3.1417E-02	3.5722E-02	1.4626E-04	6.6856E-03	3.0108E-05	4.7695E-06
1000 <sub>50</sub> <sup>0.020</sup>	4.3228E-02	4.0463E-02	2.8623E-02	3.2220E-02	1.8633E-02	6.3009E-03	1.2046E-03	3.7607E-04	3.6267E-04
2500 <sub>50</sub> <sup>0.020</sup>	4.1015E-02	3.8747E-02	3.4598E-02	3.2923E-02	2.2455E-02	1.0334E-02	1.1807E-02	2.6485E-04	4.3894E-04
5000 <sub>50</sub> <sup>0.020</sup>	4.4536E-02	4.1440E-02	3.8036E-02	2.4037E-02	2.3482E-02	2.6738E-02	3.5487E-03	4.1397E-04	3.3131E-03

Table 1.1: MSE for  $n = 1024$

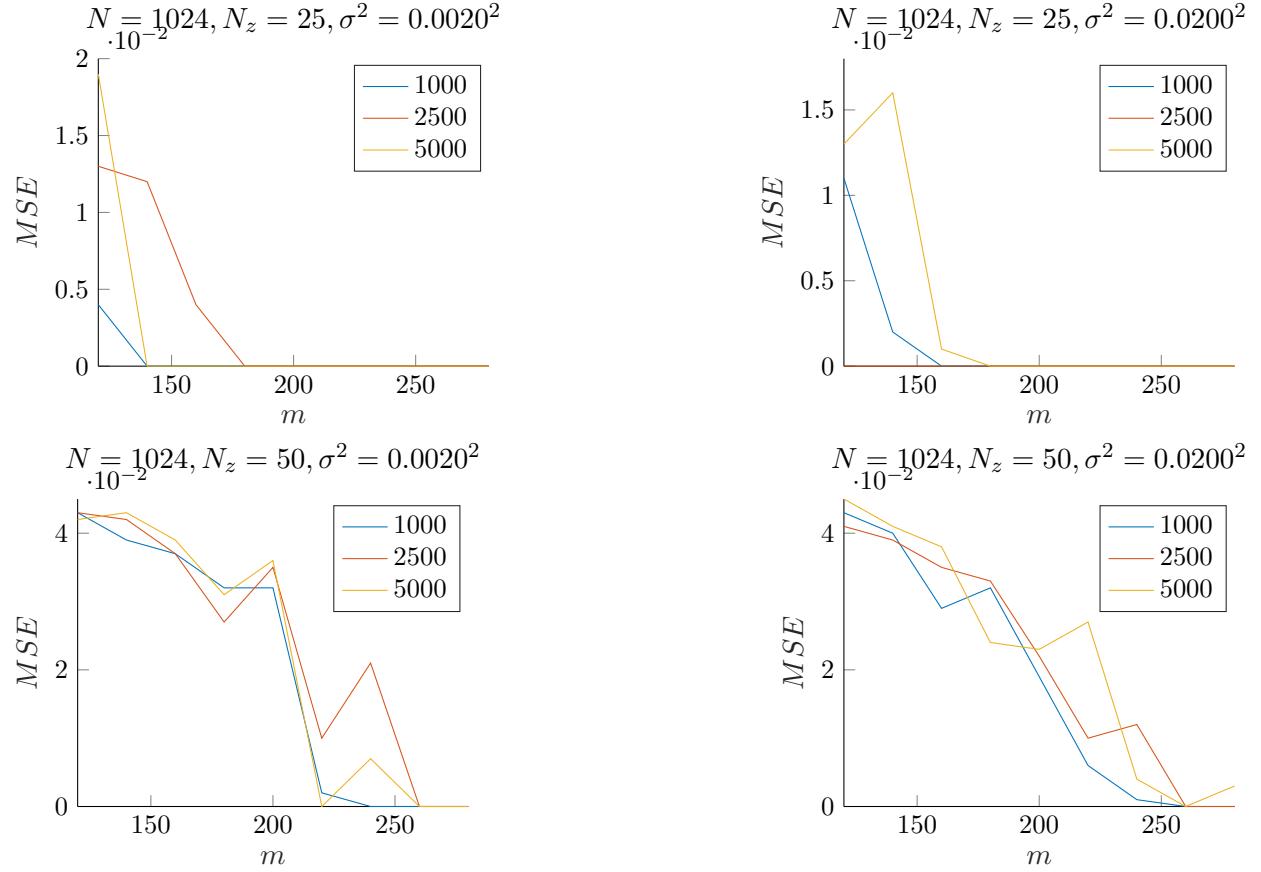


Figure 1.1: MSE performances for  $N = 1024$

## 1.2 Execution time for $n = 1024$

$k_{Nz}^\sigma$	$m$								Total	
	120	140	160	180	200	220	240	260	280	
1000 <sub>25</sub> <sup>0.002</sup>	00:42:10	00:42:46	00:39:51	00:41:29	00:39:06	00:36:06	00:35:22	00:40:56	00:36:49	05:54:35
2500 <sub>25</sub> <sup>0.002</sup>	00:46:59	00:38:08	00:52:06	00:56:11	00:48:20	00:43:42	00:45:05	00:43:47	00:41:10	06:55:28
5000 <sub>25</sub> <sup>0.002</sup>	00:36:57	01:41:17	01:24:50	01:18:41	01:09:53	01:07:32	01:01:16	00:57:17	00:58:23	10:16:06
1000 <sub>50</sub> <sup>0.020</sup>	00:35:54	00:36:40	00:45:54	00:42:30	00:37:08	00:42:32	00:39:46	00:39:06	00:38:53	05:58:23
2500 <sub>50</sub> <sup>0.020</sup>	01:14:15	01:06:48	01:05:35	01:01:26	01:04:52	01:06:28	01:17:48	01:21:16	01:22:17	10:40:45
5000 <sub>50</sub> <sup>0.020</sup>	01:25:25	00:52:44	02:27:23	02:25:23	02:09:13	01:52:11	01:41:11	01:50:39	01:52:57	16:37:06
1000 <sub>50</sub> <sup>0.002</sup>	00:40:16	00:37:26	00:36:00	00:34:28	00:35:51	00:30:57	00:31:12	00:30:23	00:30:44	05:07:17
2500 <sub>50</sub> <sup>0.002</sup>	00:40:20	00:40:17	00:37:42	00:35:32	00:37:05	00:45:04	00:37:25	00:45:15	00:43:32	06:02:12
5000 <sub>50</sub> <sup>0.002</sup>	00:41:48	00:45:45	00:41:54	00:43:02	00:42:57	01:24:39	01:25:11	01:15:10	01:03:31	08:43:57
1000 <sub>50</sub> <sup>0.020</sup>	00:41:23	00:37:53	00:32:10	00:34:42	00:31:25	00:31:23	00:31:49	00:30:51	00:30:42	05:02:18
2500 <sub>50</sub> <sup>0.020</sup>	00:40:46	00:39:15	00:38:46	00:38:10	00:38:08	00:49:30	00:39:55	00:54:43	00:48:51	06:28:04
5000 <sub>50</sub> <sup>0.020</sup>	00:57:51	00:54:33	00:54:36	01:23:54	01:08:05	00:46:58	01:40:01	01:38:48	01:25:05	10:49:51
									<b>05:16:57:08</b>	

Table 1.2: Execution time for  $n = 1024$

## 1.3 Settle down time for $n = 1024$

$k_{Nz}^\sigma$	$m$									
	120	140	160	180	200	220	240	260	280	
1000 <sub>25</sub> <sup>0.002</sup>	150.00	76.00	69.67	149.58	68.66	31.25	90.46	137.64	57.17	
2500 <sub>25</sub> <sup>0.002</sup>	150.00	150.00	150.00	148.38	129.38	49.10	50.12	96.63	25.82	
5000 <sub>25</sub> <sup>0.002</sup>	20.06	150.00	113.18	93.20	86.73	148.52	78.27	84.04	23.17	
1000 <sub>25</sub> <sup>0.020</sup>	150.00	150.00	67.02	38.04	53.86	120.04	24.77	127.99	23.09	
2500 <sub>25</sub> <sup>0.020</sup>	124.85	142.79	64.30	114.01	36.44	46.17	32.02	60.30	25.23	
5000 <sub>25</sub> <sup>0.020</sup>	150.00	132.24	149.82	79.95	59.08	118.43	52.20	110.89	135.31	
1000 <sub>50</sub> <sup>0.002</sup>	149.53	148.67	149.87	144.13	144.55	150.00	150.00	118.84	117.95	
2500 <sub>50</sub> <sup>0.002</sup>	148.21	149.50	146.49	123.82	43.18	150.00	150.00	150.00	115.76	
5000 <sub>50</sub> <sup>0.002</sup>	149.57	148.14	149.82	127.13	150.00	150.00	150.00	126.09	78.08	
1000 <sub>50</sub> <sup>0.020</sup>	149.59	149.16	148.30	144.86	150.00	150.00	150.00	138.15	104.91	
2500 <sub>50</sub> <sup>0.020</sup>	149.79	147.71	145.31	98.37	150.00	150.00	150.00	119.35	129.96	
5000 <sub>50</sub> <sup>0.020</sup>	149.32	148.83	148.54	150.00	150.00	150.00	150.00	146.95	150.00	

Table 1.3: Settle down time for  $n = 1024$

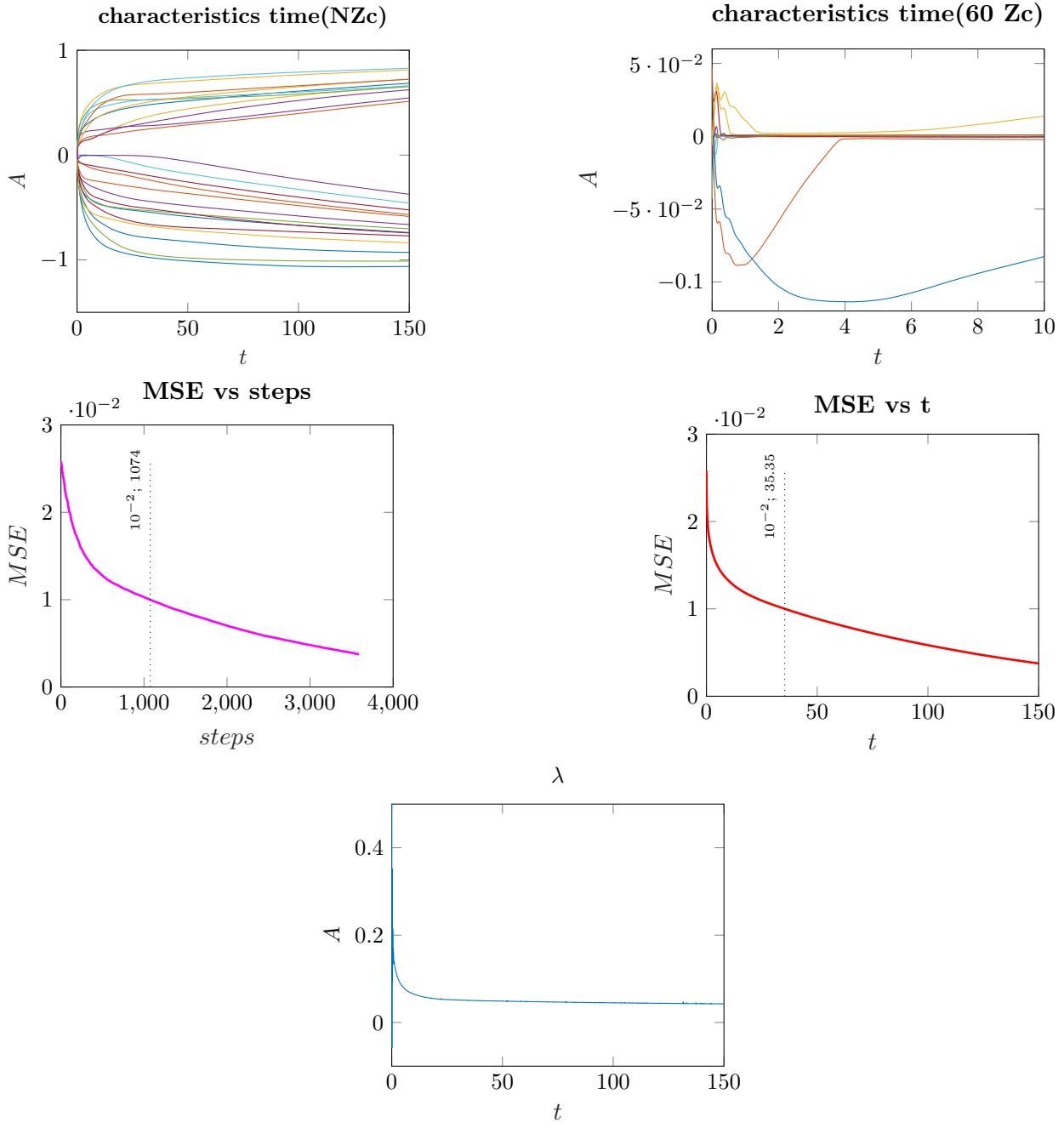


## Chapter 2

### Details

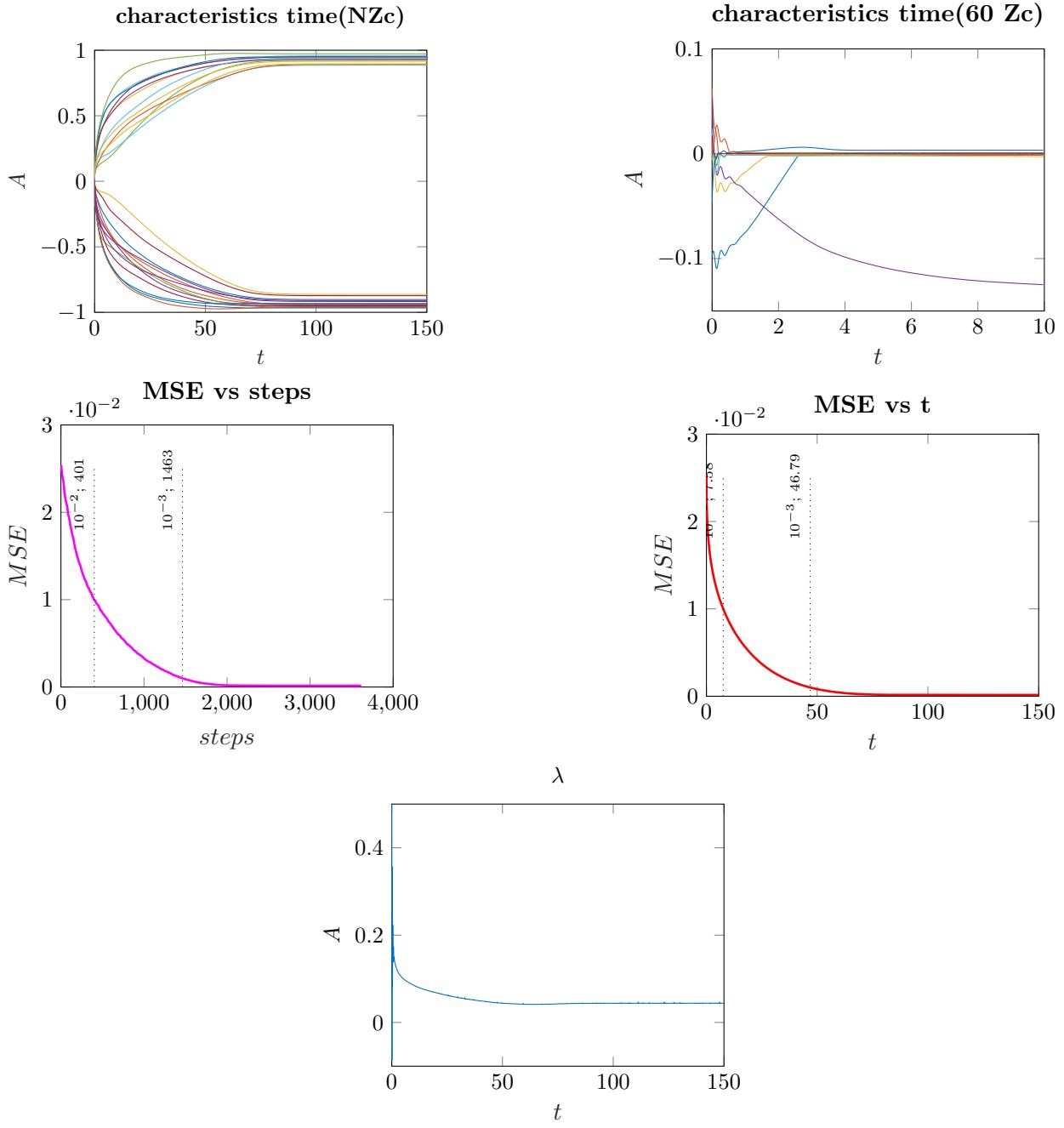
## 2.1 sim 4.151

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
1000	U	$3.7510E - 03$	00 : 42 : 10	150.00	3589	4.151
$A$	$Nz$	$\eta$	$m$	$n$	$\sigma$	
1	25	25	120	1024	0.0020	



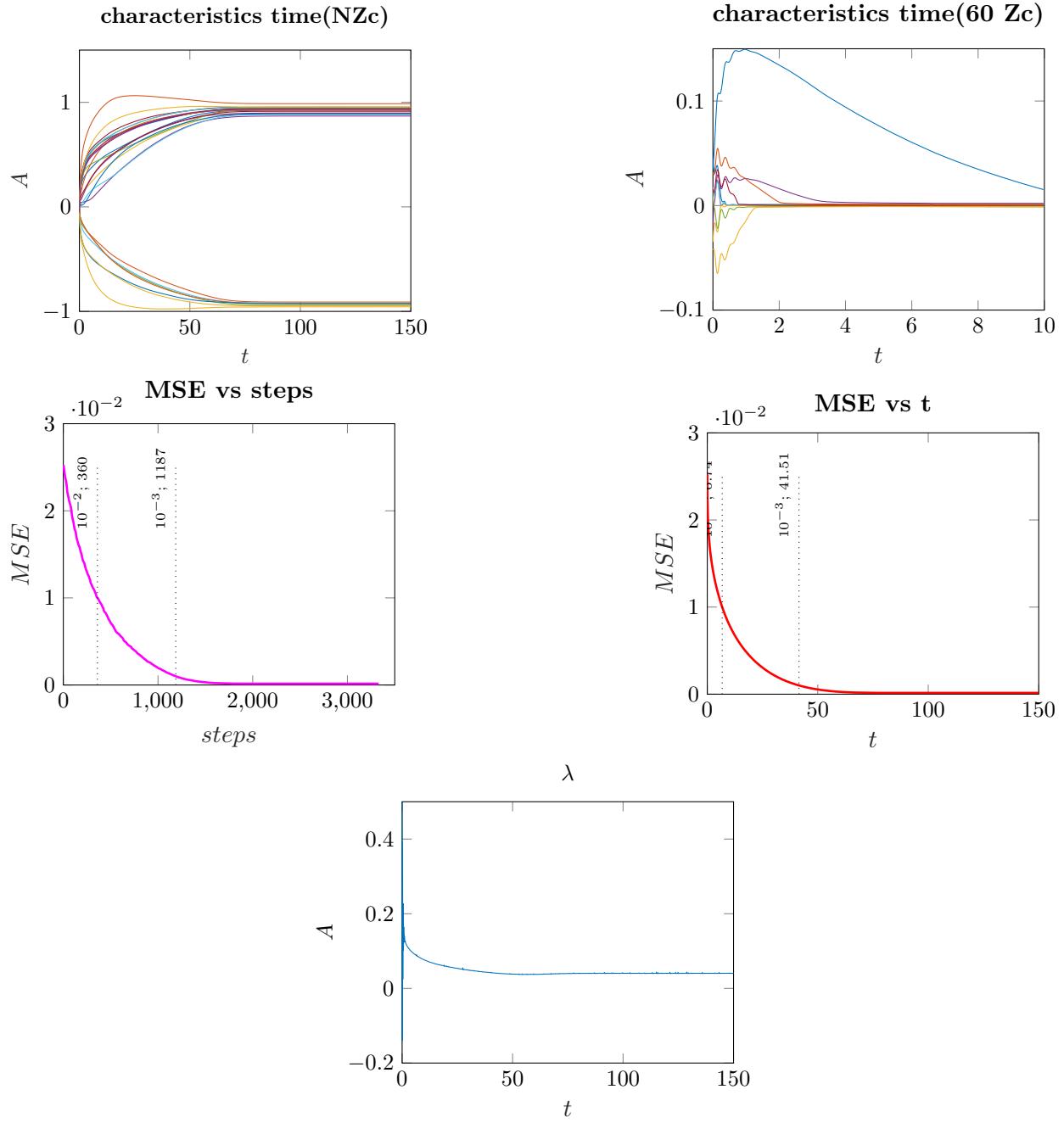
## 2.2 sim 4.152

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
1000	U	$1.5359E - 04$	00 : 42 : 46	150.00	3615	4.152
				$A$	$Nz$	$\eta$
				1	25	25
					140	$m$
					1024	$n$
					0.0020	$\sigma$



### 2.3 sim 4.153

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id			
1000	U	$1.4886E - 04$	00 : 39 : 51	150.00	3330	4.153			
				$A$	$Nz$	$\eta$	$m$	$n$	$\sigma$
				1	25	25	160	1024	0.0020

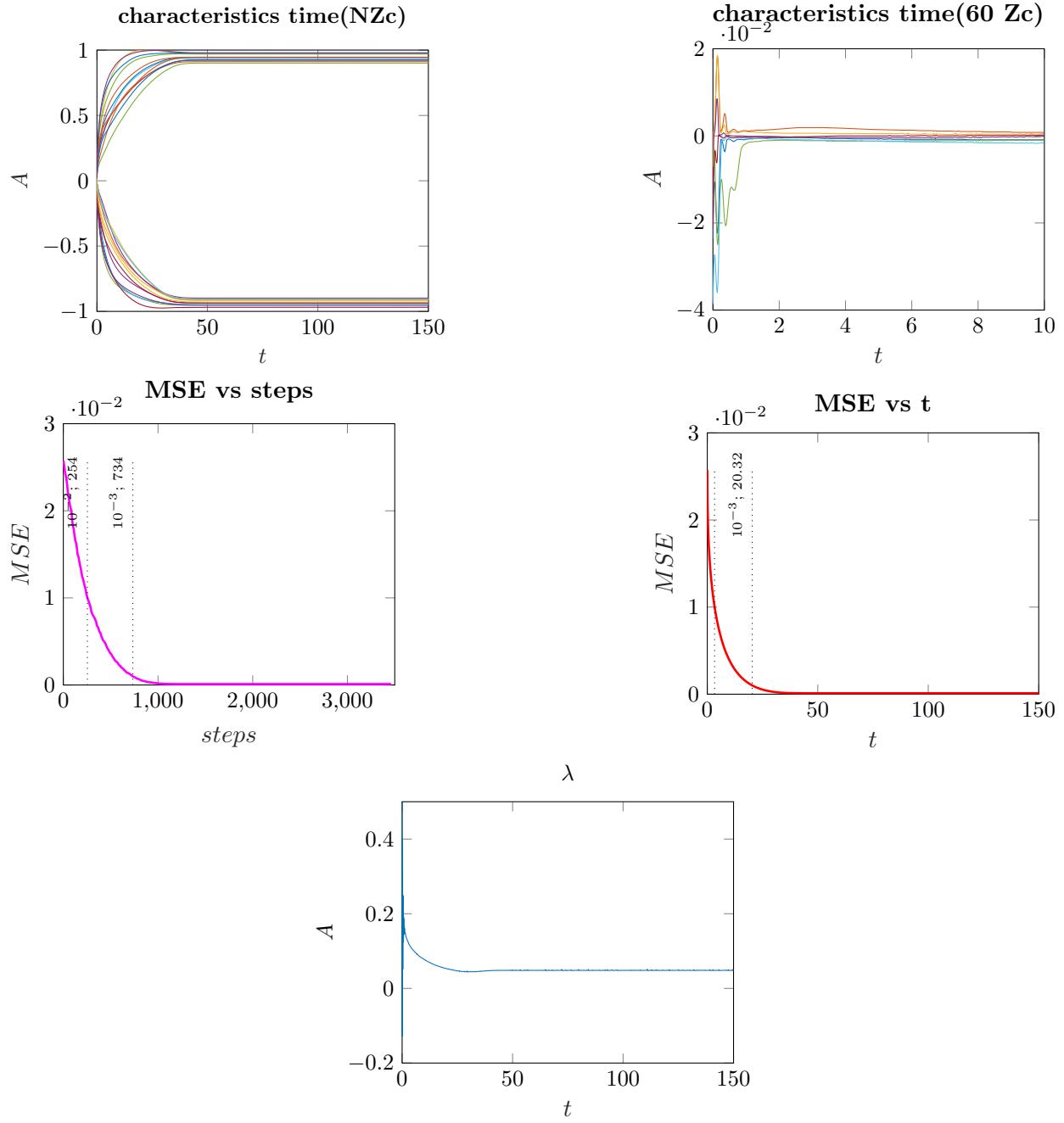


## 2.4 sim 4.154

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
1000	U	$1.1267E - 04$	00 : 41 : 29	150.00	3463	4.154
				$A$	$Nz$	$\eta$
				1	25	25

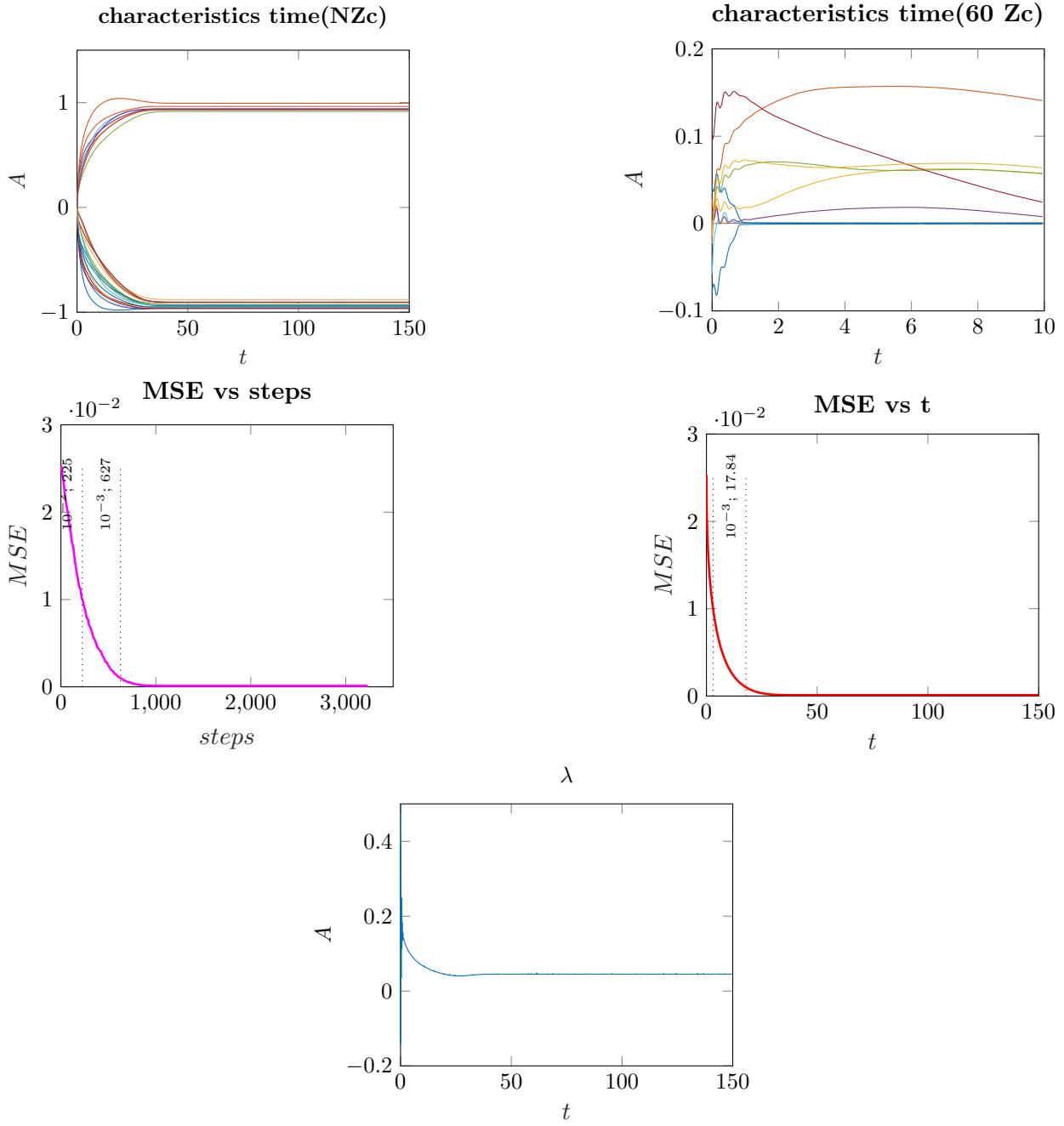
$m$        $n$        $\sigma$

180      1024      0.0020



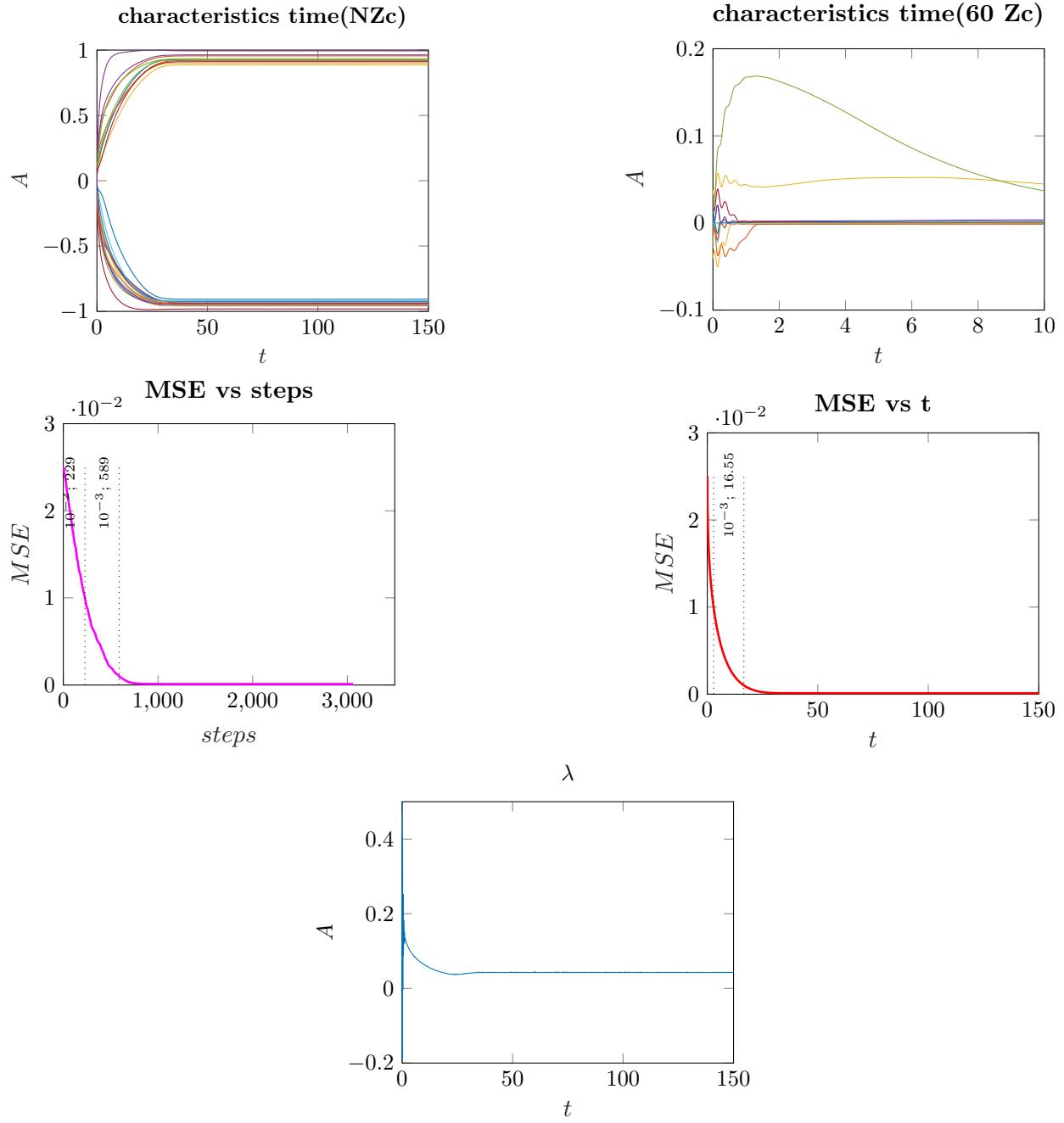
## 2.5 sim 4.155

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
1000	U	$1.1193E - 04$	00 : 39 : 06	150.00	3234	4.155
$A$	$Nz$	$\eta$	$m$	$n$	$\sigma$	
1	25	25	200	1024	0.0020	



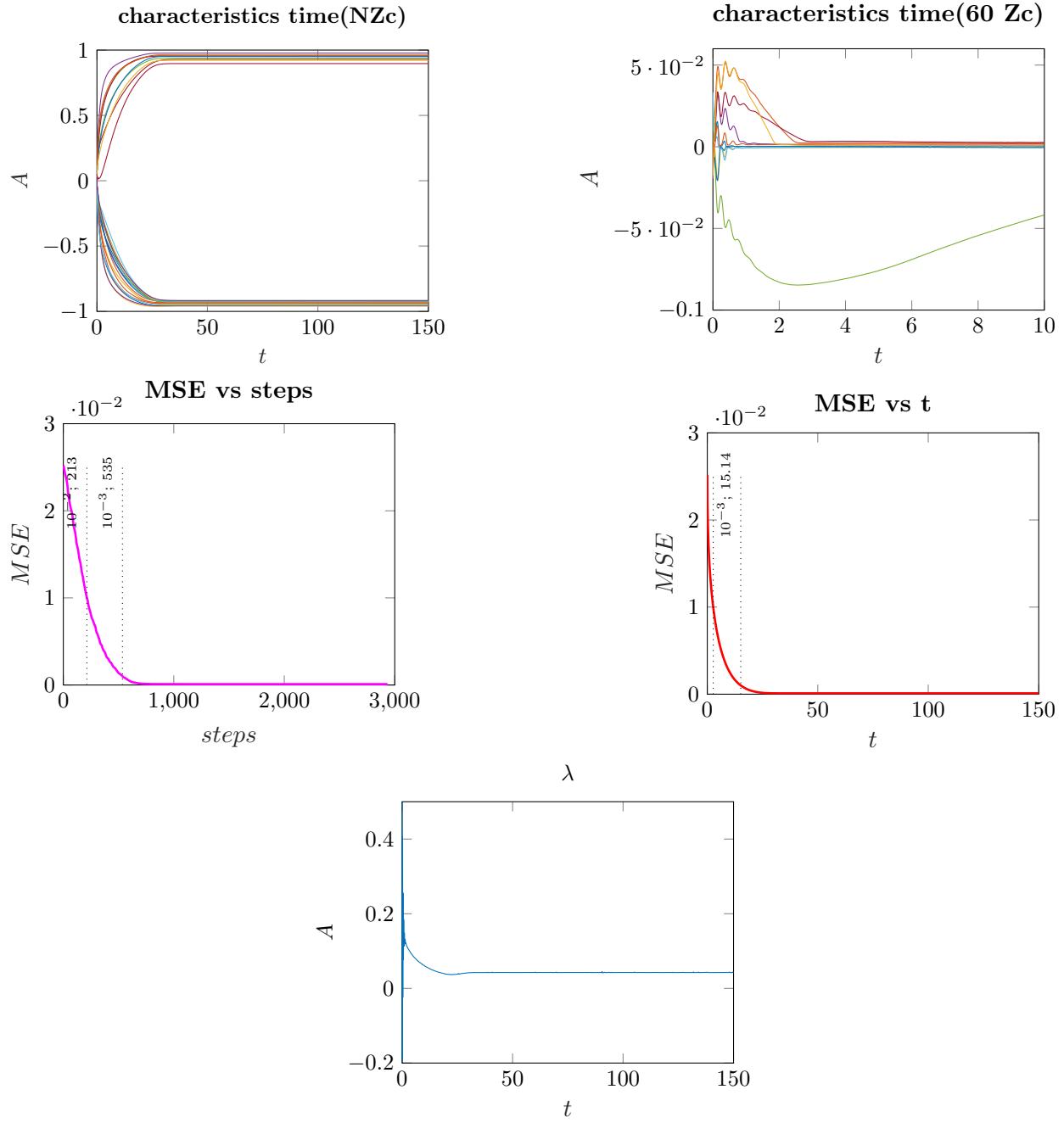
## 2.6 sim 4.156

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
1000	U	$1.1499E - 04$	00 : 36 : 06	150.00	3062	4.156
				$A$	$Nz$	$\eta$
				1	25	25
					220	1024
						$\sigma$
						0.0020



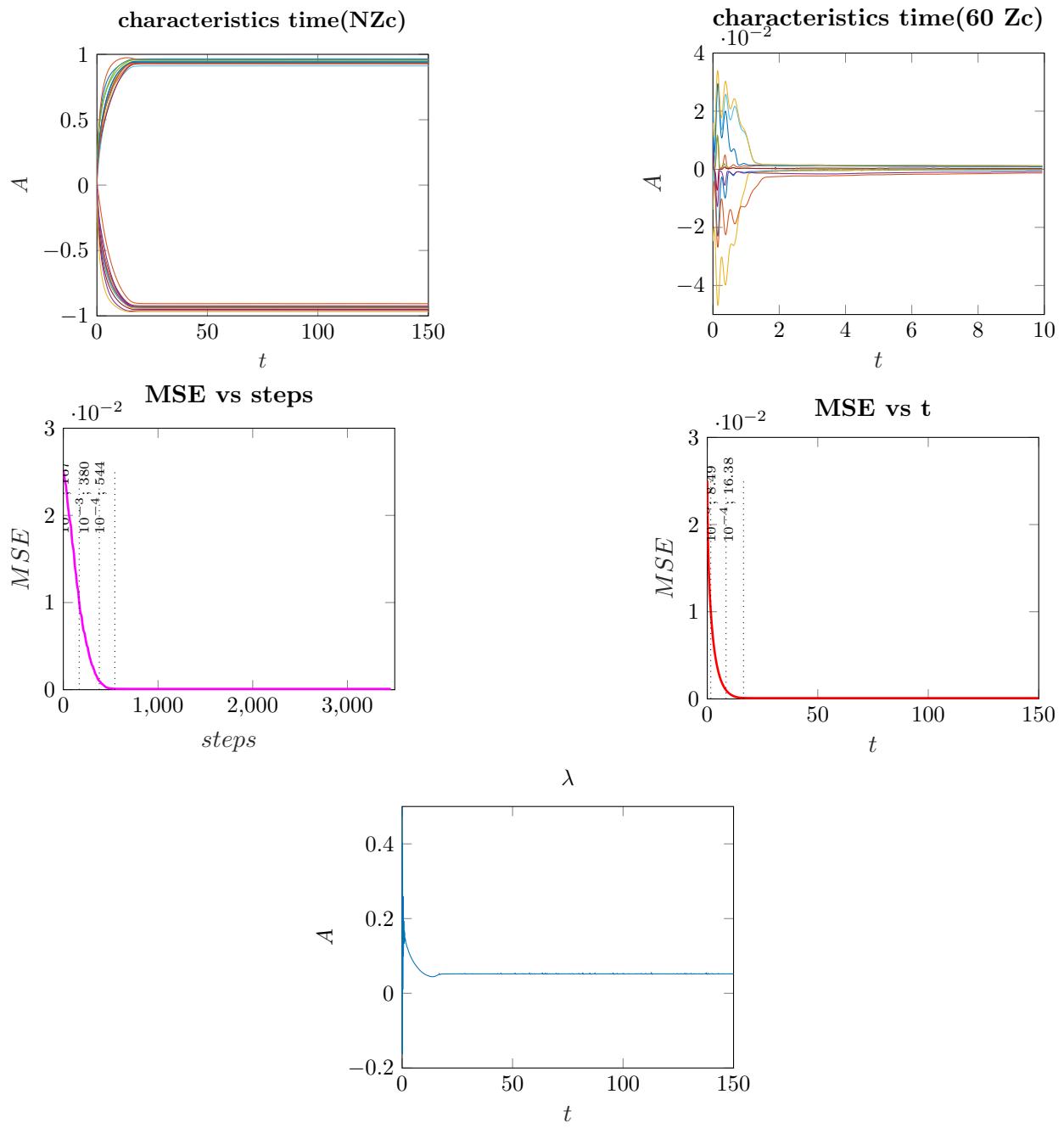
## 2.7 sim 4.157

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
1000	U	$1.0425E - 04$	00 : 35 : 22	150.00	2934	4.157
				$A$	$Nz$	$\eta$
				1	25	25
					$m$	$n$
					240	1024
					$\sigma$	
						0.0020



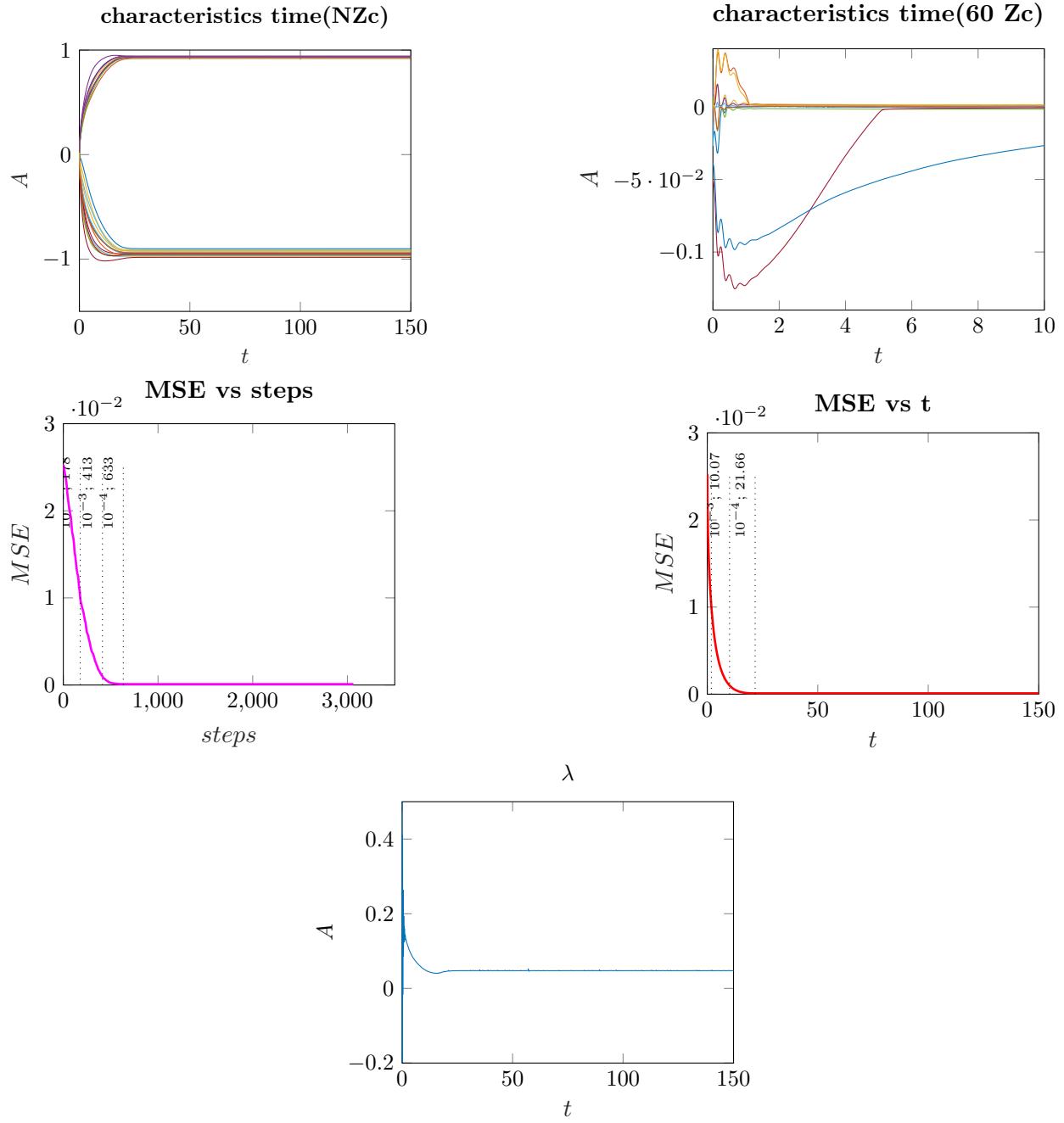
## 2.8 sim 4.158

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
1000	U	$9.2970E - 05$	00 : 40 : 56	150.00	3459	4.158
				$A$	$Nz$	$\eta$
				1	25	25
					260	$m$
					1024	$n$
					0.0020	$\sigma$



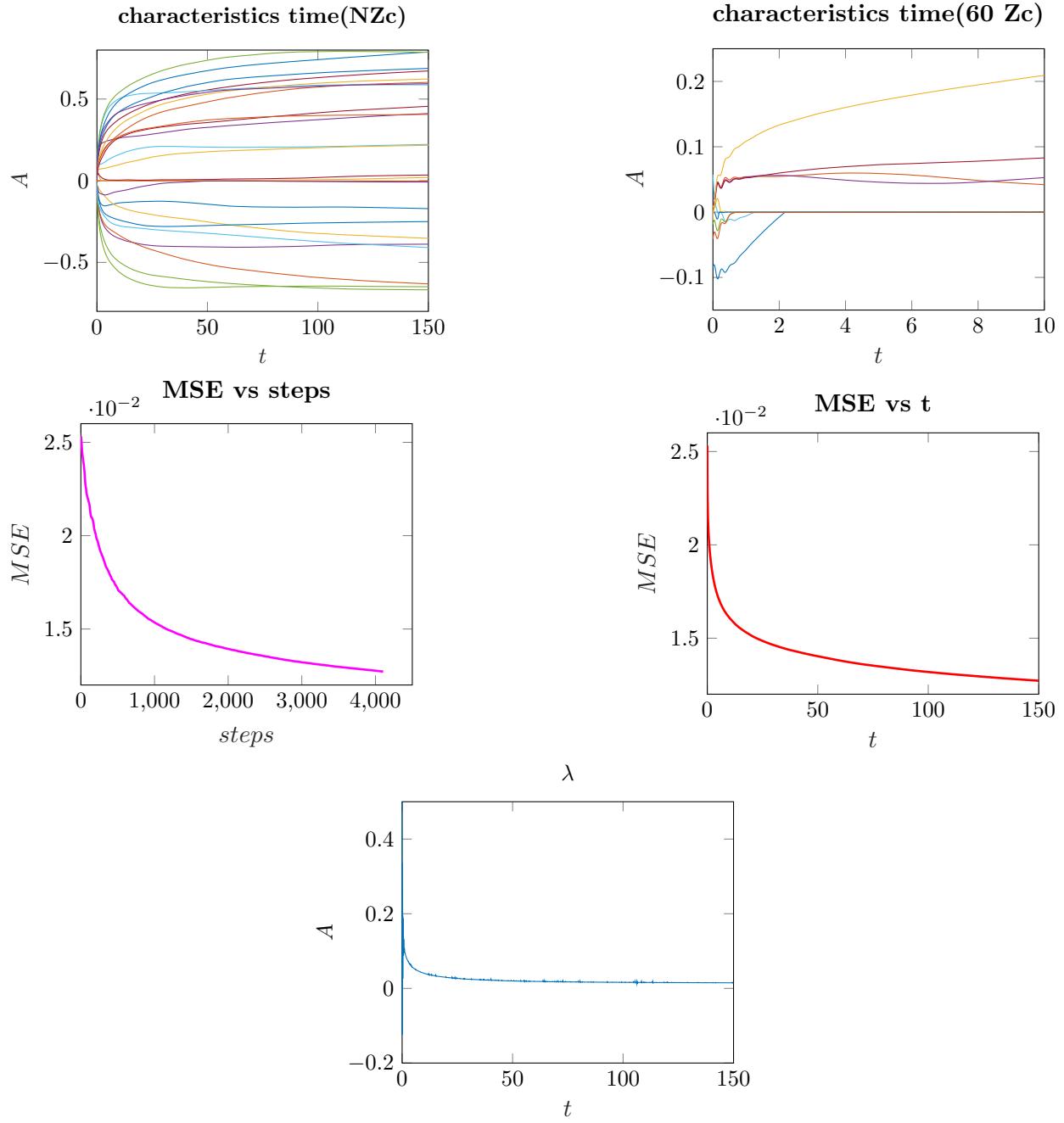
## 2.9 sim 4.159

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
1000	U	$9.7057E - 05$	00 : 36 : 49	150.00	3063	4.159
				$A$	$Nz$	$\eta$
				1	25	25
					280	$m$
					1024	$n$
					0.0020	$\sigma$



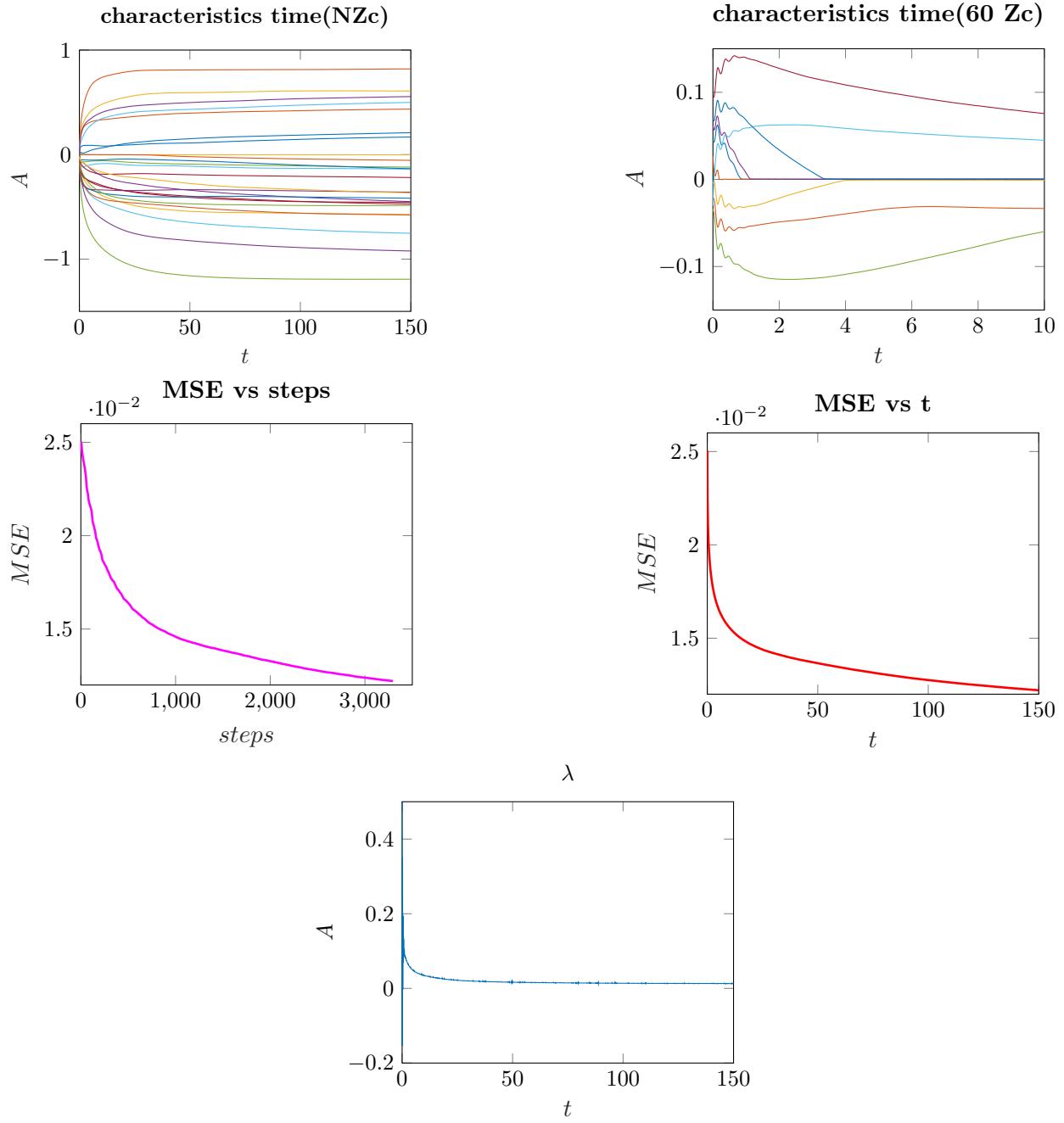
## 2.10 sim 4.160

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id			
2500	U	$1.2722E - 02$	00 : 46 : 59	150.00	4105	4.160			
				$A$	$Nz$	$\eta$	$m$	$n$	$\sigma$
				1	25	25	120	1024	0.0020



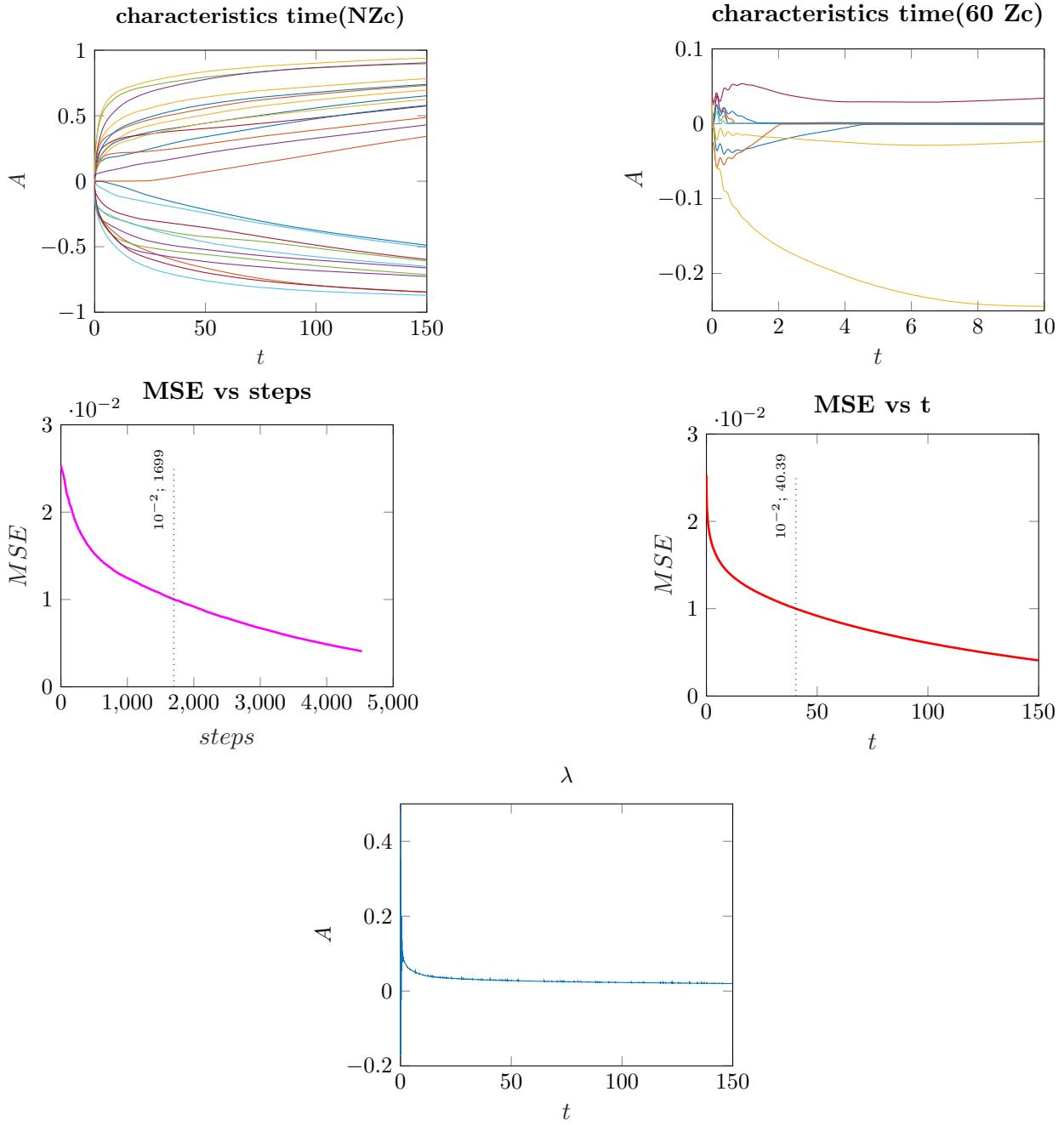
## 2.11 sim 4.161

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
2500	U	$1.2214E - 02$	00 : 38 : 08	150.00	3294	4.161
$A$	$Nz$	$\eta$	$m$	$n$	$\sigma$	
1	25	25	140	1024	0.0020	



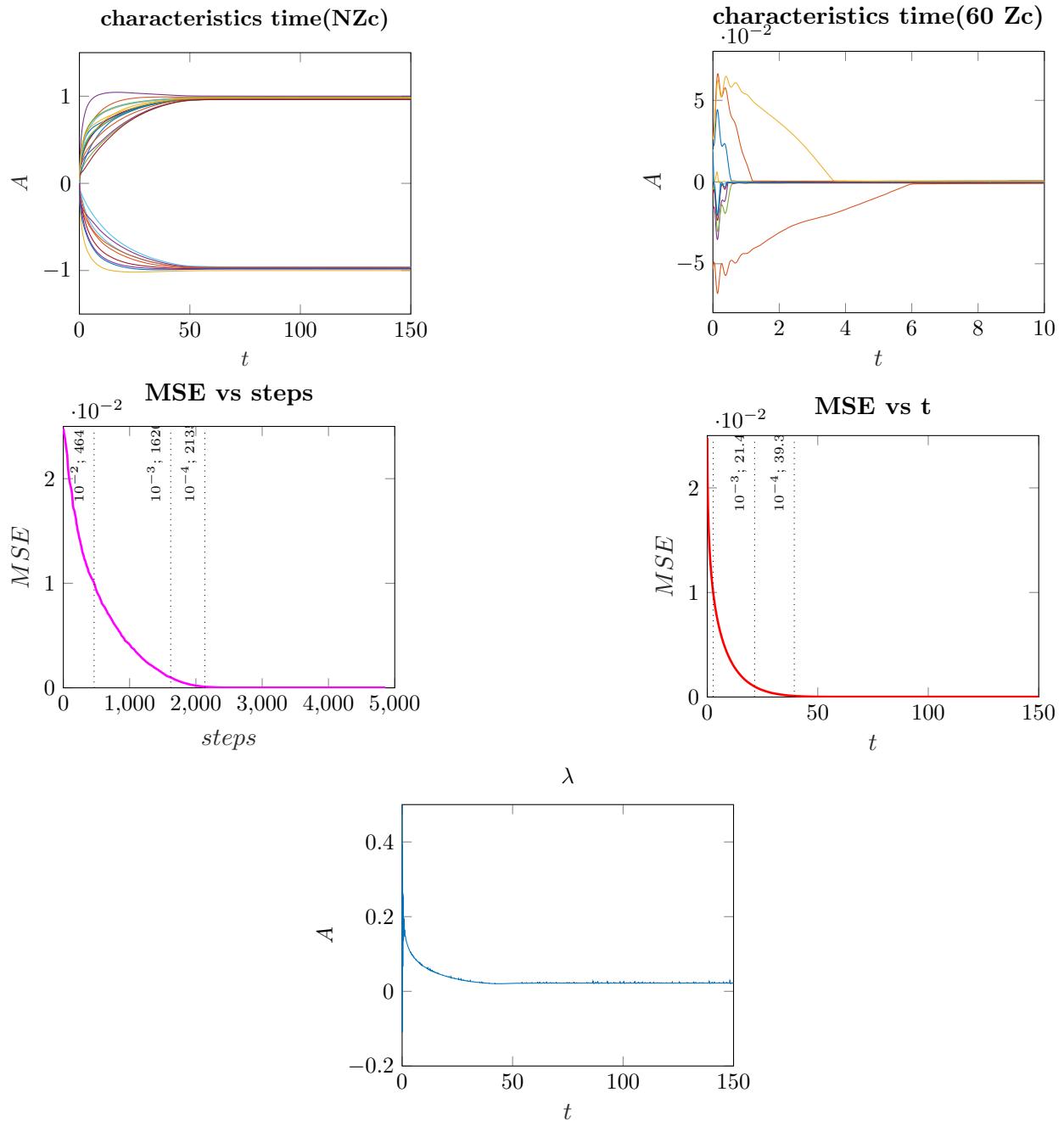
## 2.12 sim 4.162

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id			
2500	U	$4.0790E - 03$	00 : 52 : 06	150.00	4530	4.162			
				$A$	$Nz$	$\eta$	$m$	$n$	$\sigma$
				1	25	25	160	1024	0.0020



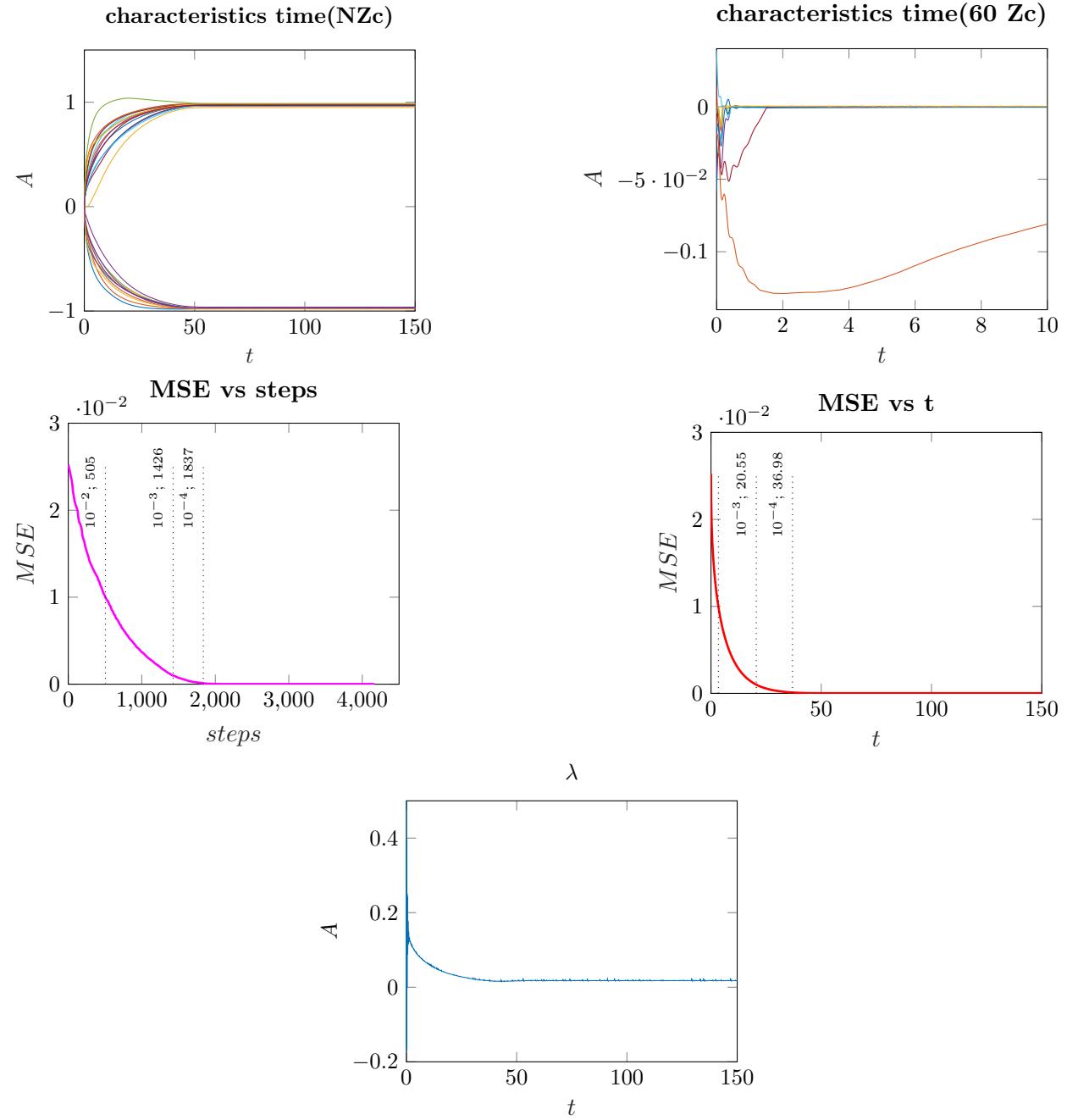
## 2.13 sim 4.163

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
2500	U	$1.9711E - 05$	00 : 56 : 11	150.00	4860	4.163
$A$	$Nz$	$\eta$	$m$	$n$	$\sigma$	
1	25	25	180	1024	0.0020	



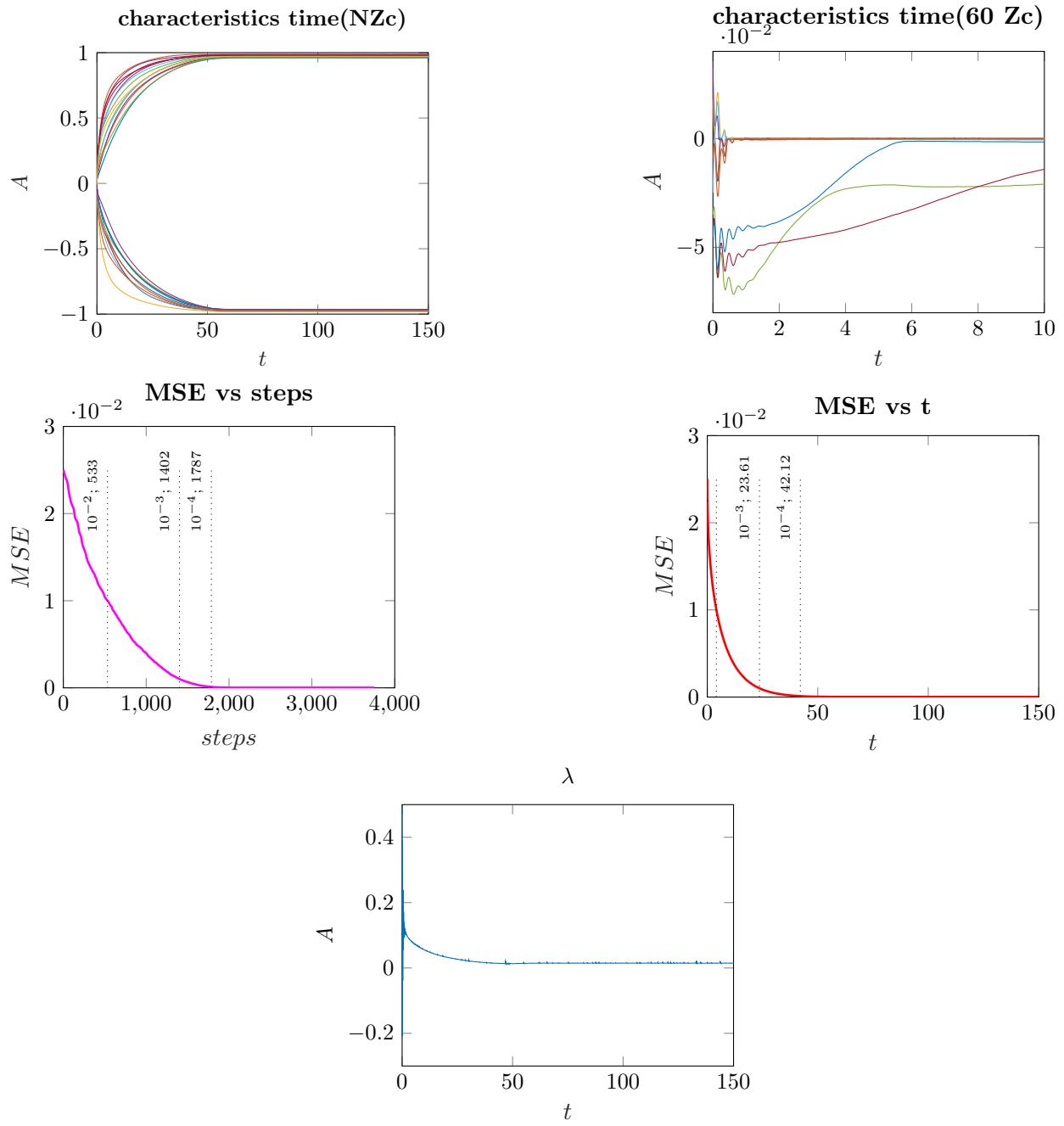
## 2.14 sim 4.164

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
2500	U	$1.8968E - 05$	00 : 48 : 20	150.00	4166	4.164
$A$	$Nz$	$\eta$	$m$	$n$	$\sigma$	
1	25	25	200	1024	0.0020	



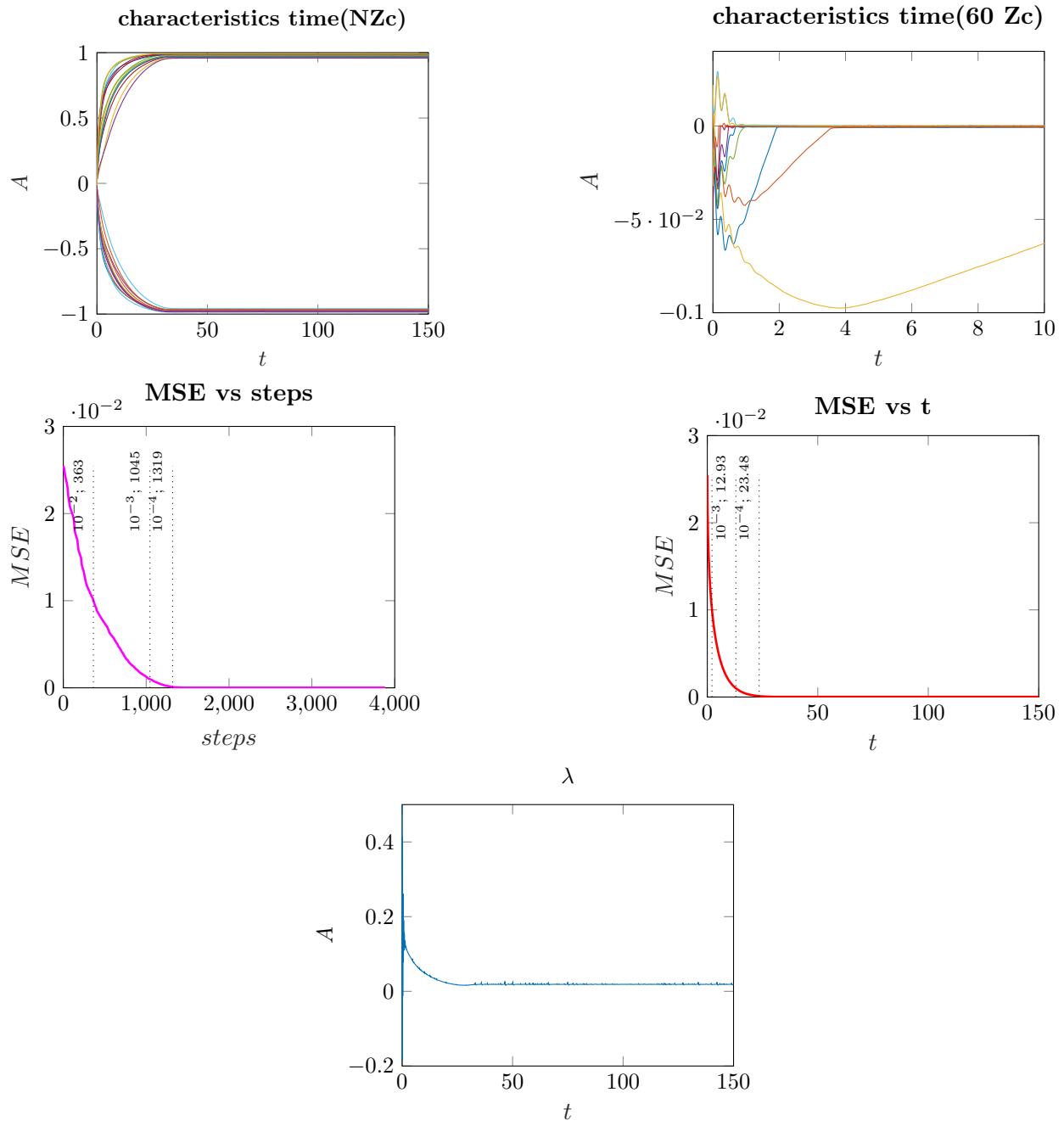
## 2.15 sim 4.165

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
2500	U	$1.9282E - 05$	00 : 43 : 42	150.00	3751	4.165
				$A$	$Nz$	$\eta$
				1	25	25
					220	1024
						0.0020



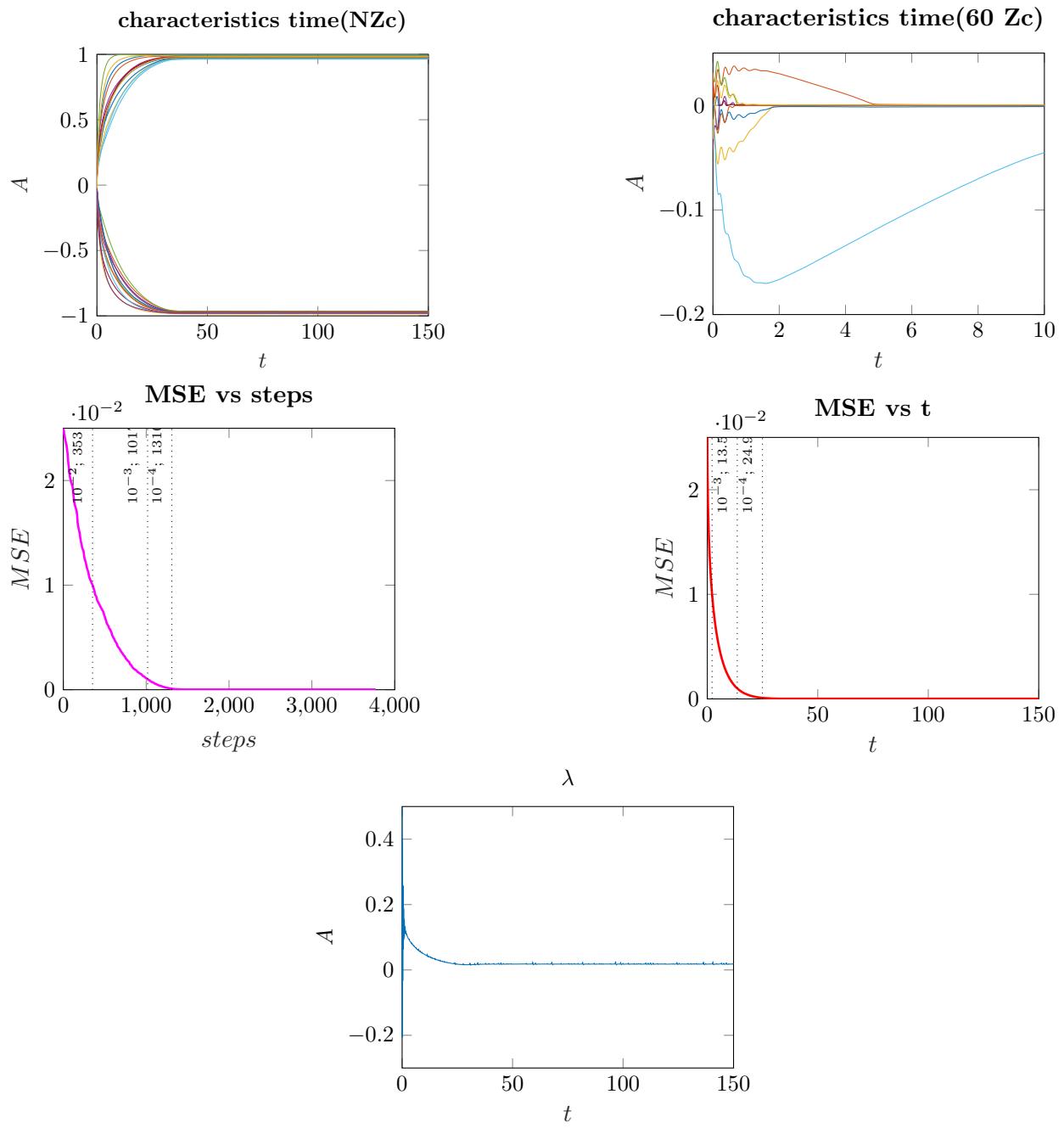
## 2.16 sim 4.166

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
2500	U	$1.6785E - 05$	00 : 45 : 05	150.00	3885	4.166
				$A$	$Nz$	$\eta$
				1	25	25
					240	1024
						0.0020



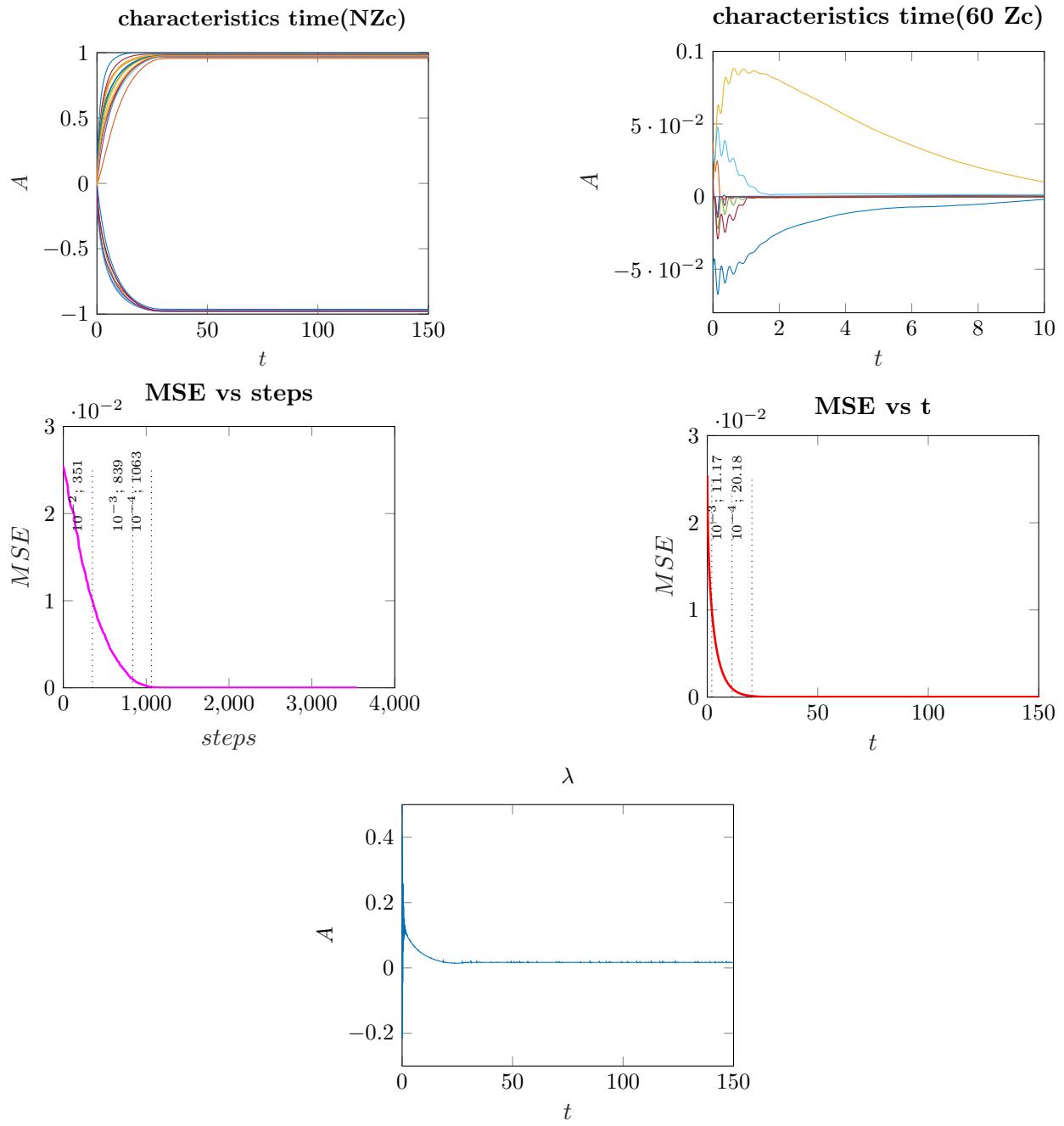
## 2.17 sim 4.167

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
2500	U	$1.7219E - 05$	00 : 43 : 47	150.00	3770	4.167
				$A$	$Nz$	$\eta$
				1	25	25
					260	$m$
					1024	$n$
					0.0020	$\sigma$



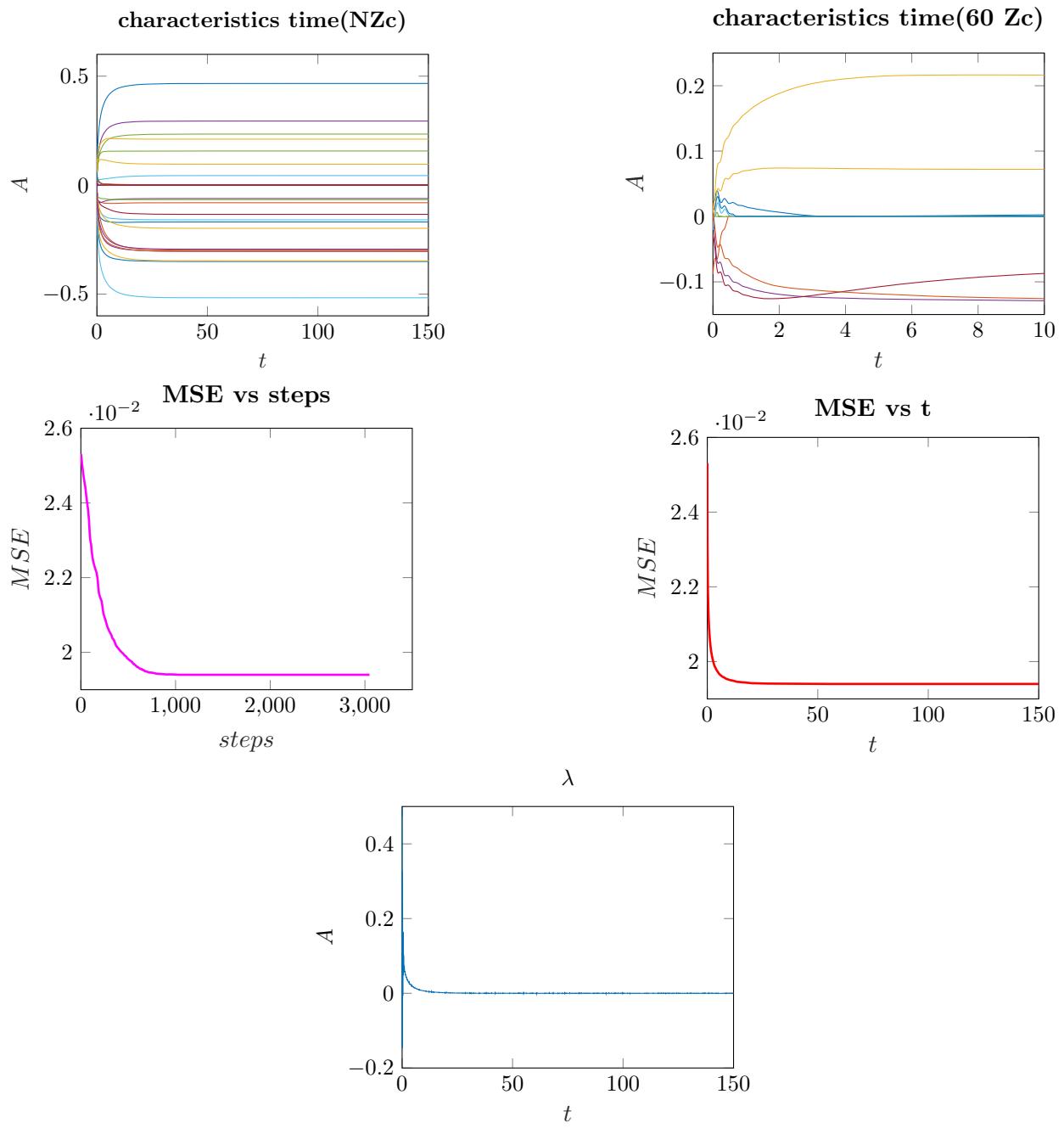
## 2.18 sim 4.168

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
2500	U	$1.5758E - 05$	00 : 41 : 10	150.00	3547	4.168
$A$	$Nz$	$\eta$	$m$	$n$	$\sigma$	
1	25	25	280	1024	0.0020	



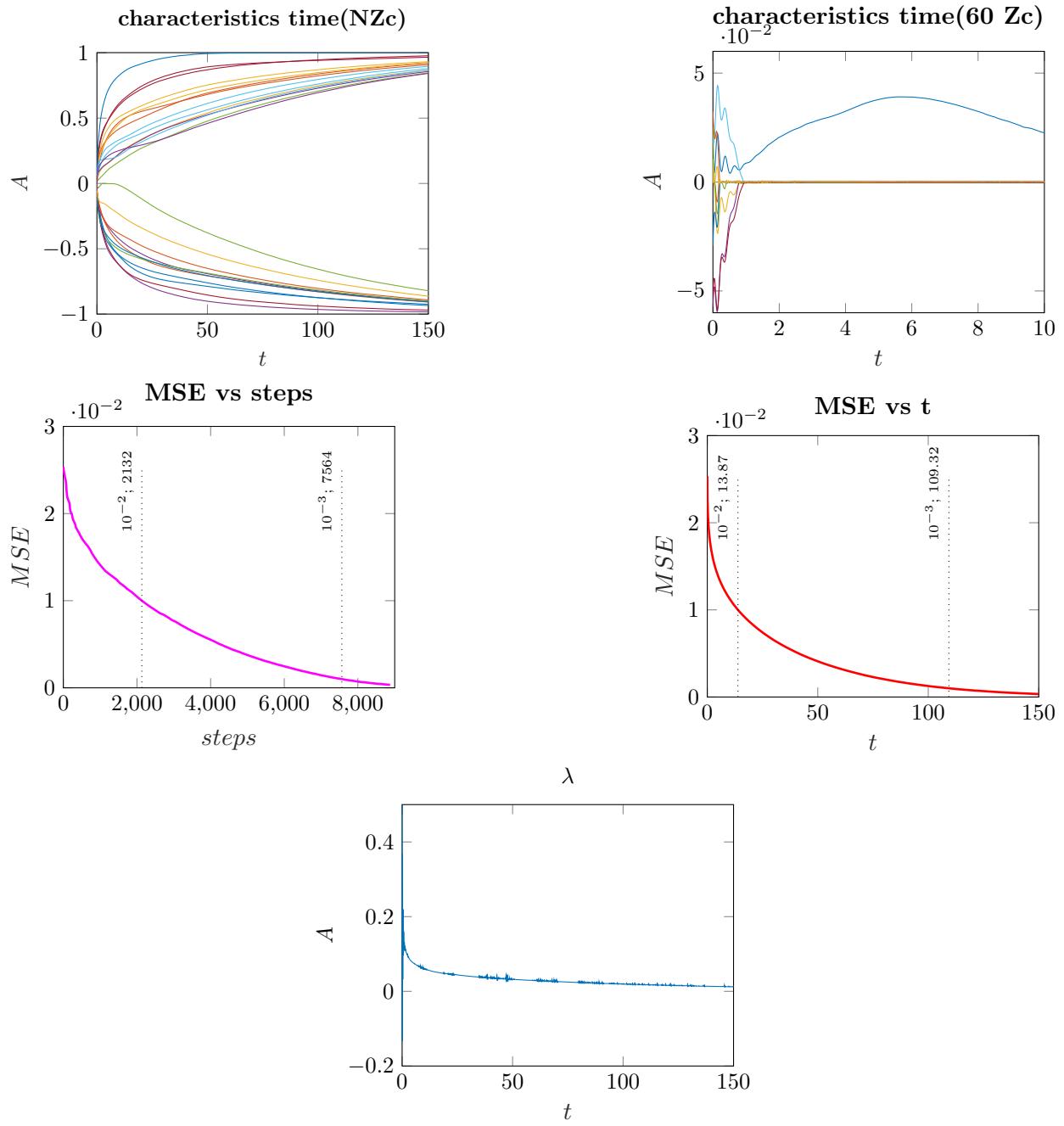
## 2.19 sim 4.169

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
5000	U	$1.9398E - 02$	00 : 36 : 57	150.00	3048	4.169
				$A$	$Nz$	$\eta$
				1	25	25
					120	$m$
					1024	$n$
					0.0020	$\sigma$



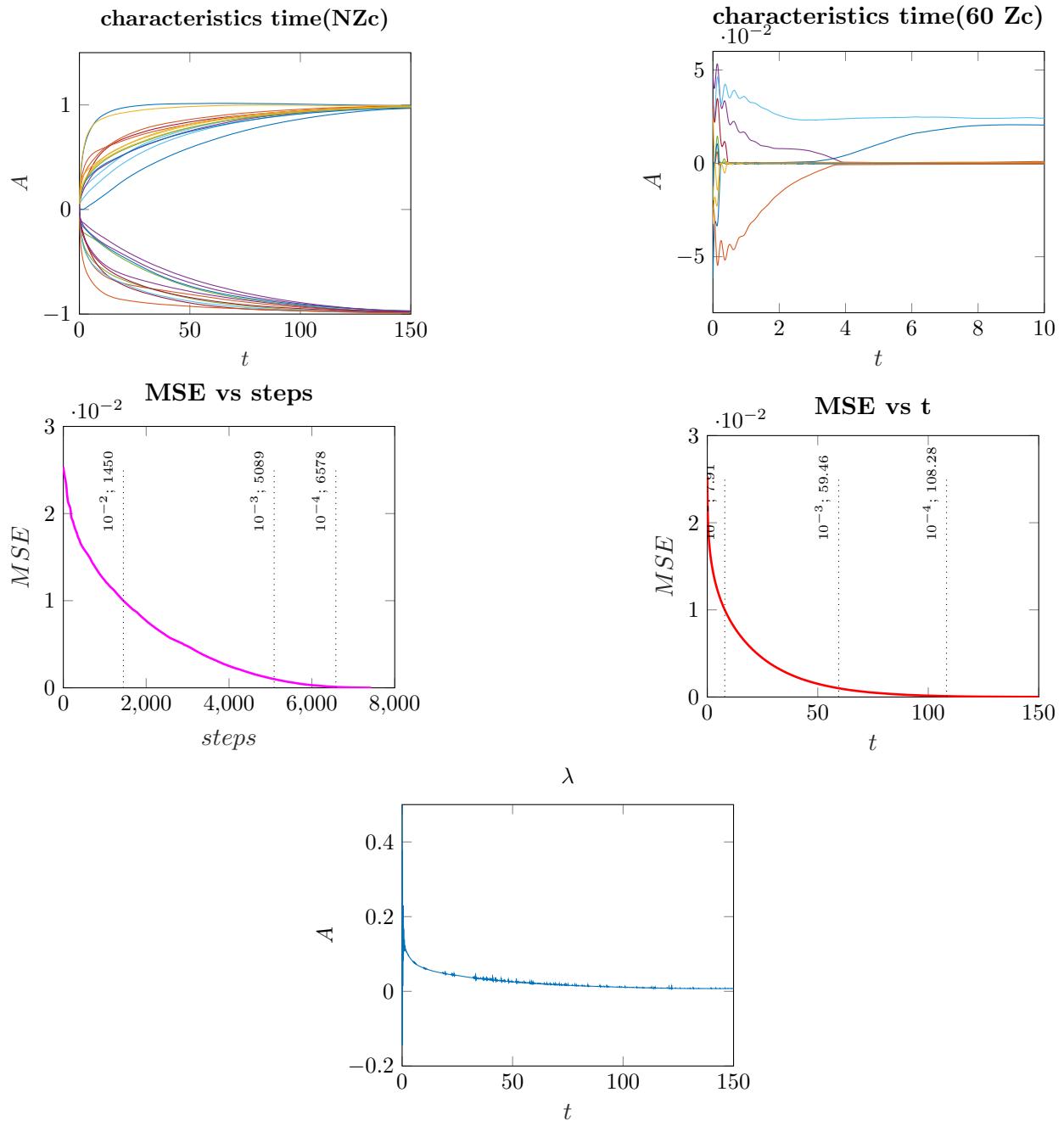
## 2.20 sim 4.170

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
5000	U	$3.4058E - 04$	01 : 41 : 17	150.00	8874	4.170
				$A$	$Nz$	$\eta$
				1	25	25
					140	$m$
					1024	$n$
					0.0020	$\sigma$



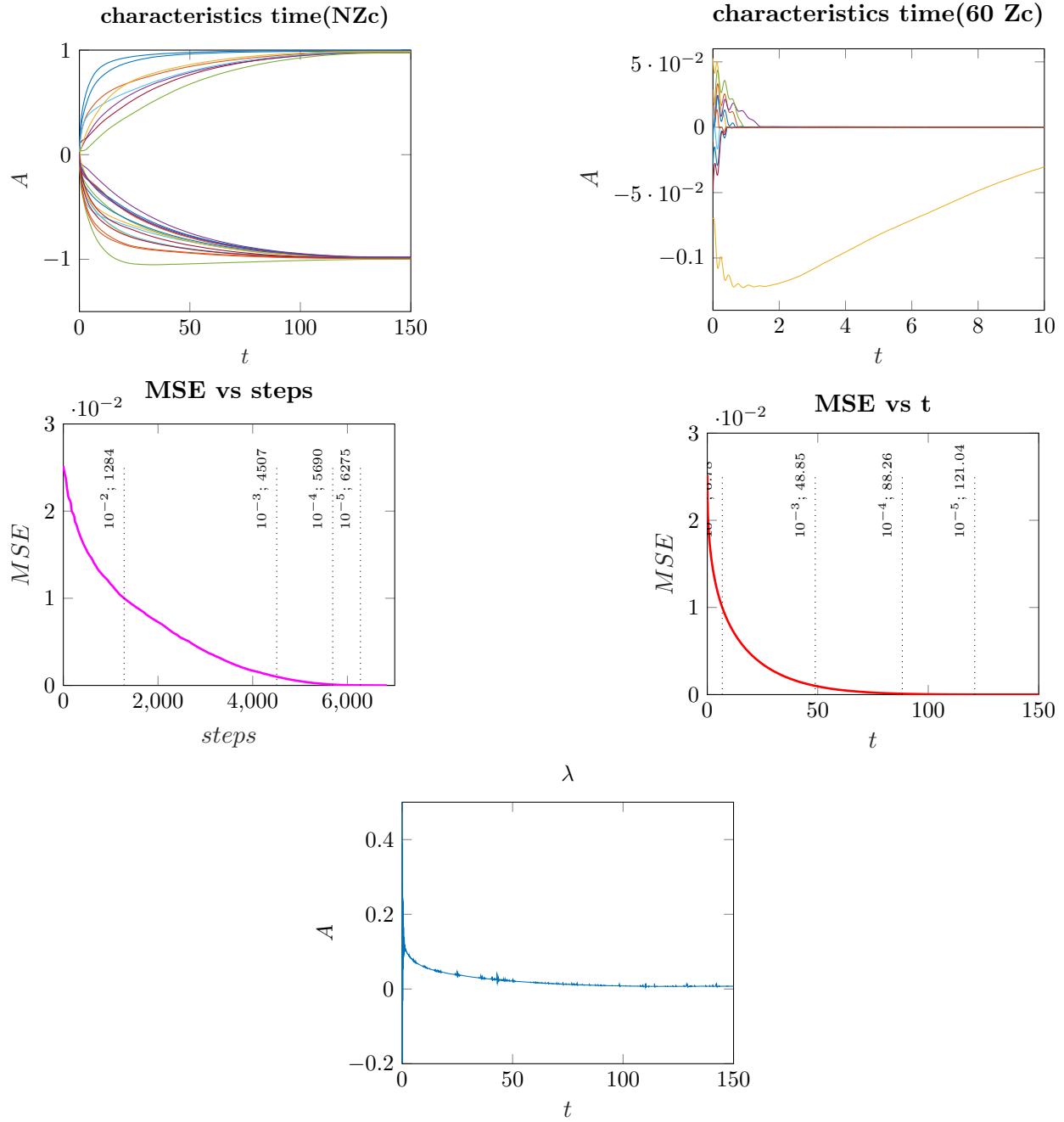
## 2.21 sim 4.171

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
5000	U	$1.0898E - 05$	01 : 24 : 50	150.00	7433	4.171
A	$Nz$	$\eta$	m	n	$\sigma$	
1	25	25	160	1024	0.0020	



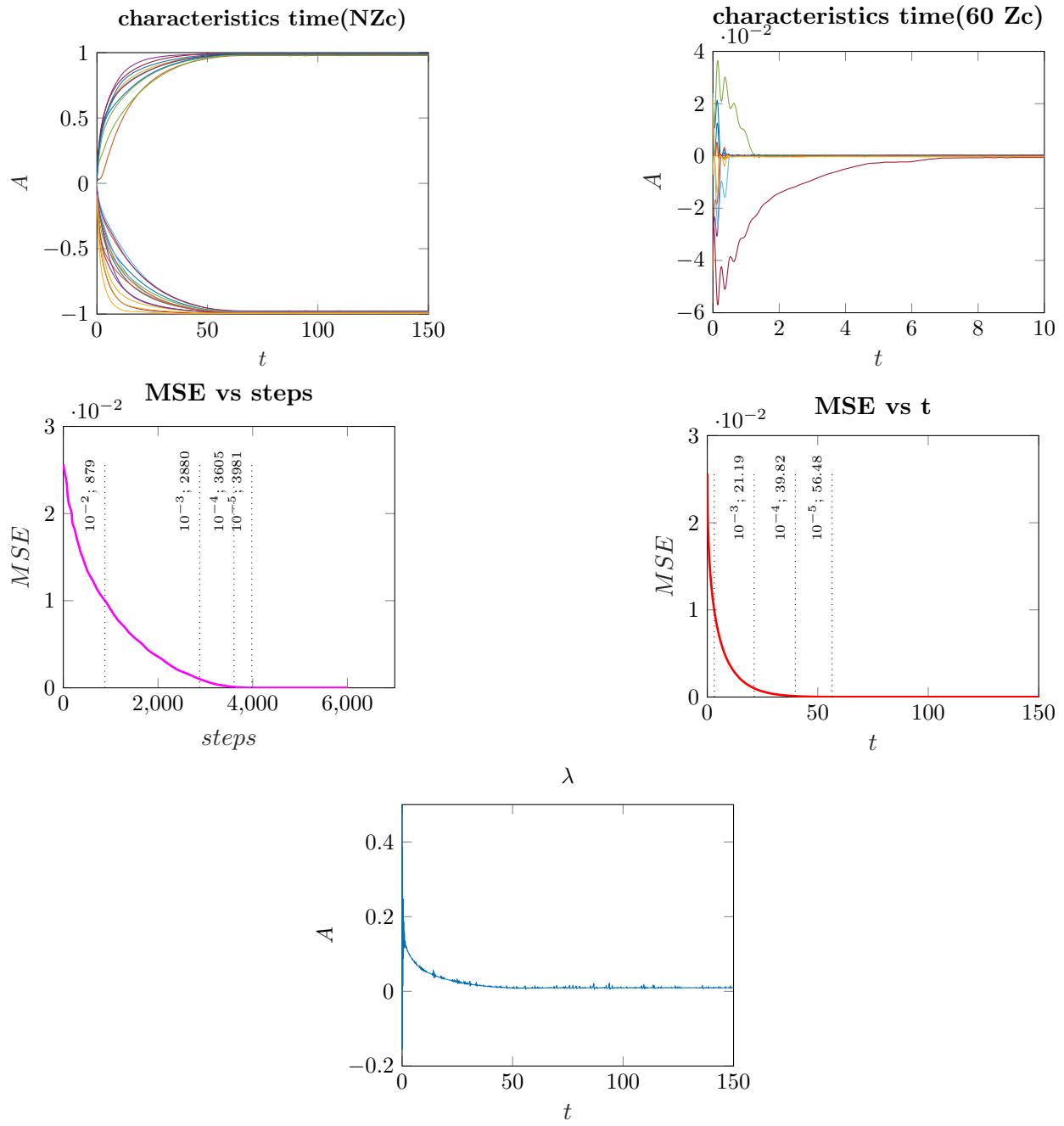
## 2.22 sim 4.172

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
5000	U	$5.9227E - 06$	01 : 18 : 41	150.00	6831	4.172
A	$Nz$	$\eta$	$m$	n	$\sigma$	
1	25	25	180	1024	0.0020	



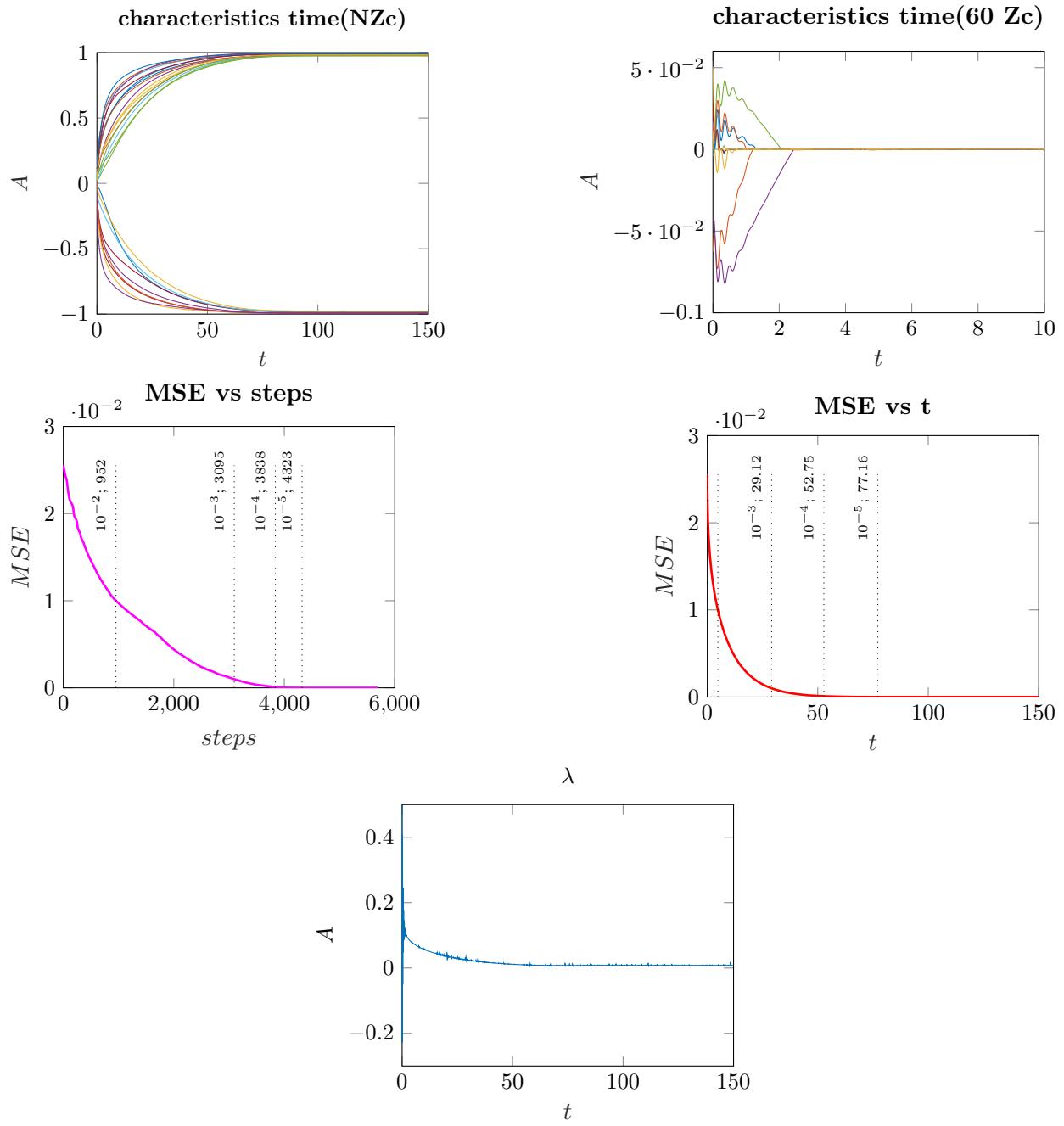
## 2.23 sim 4.173

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
5000	U	$5.4119E - 06$	01 : 09 : 53	150.00	6012	4.173
$A$	$Nz$	$\eta$	$m$	$n$	$\sigma$	
1	25	25	200	1024	0.0020	



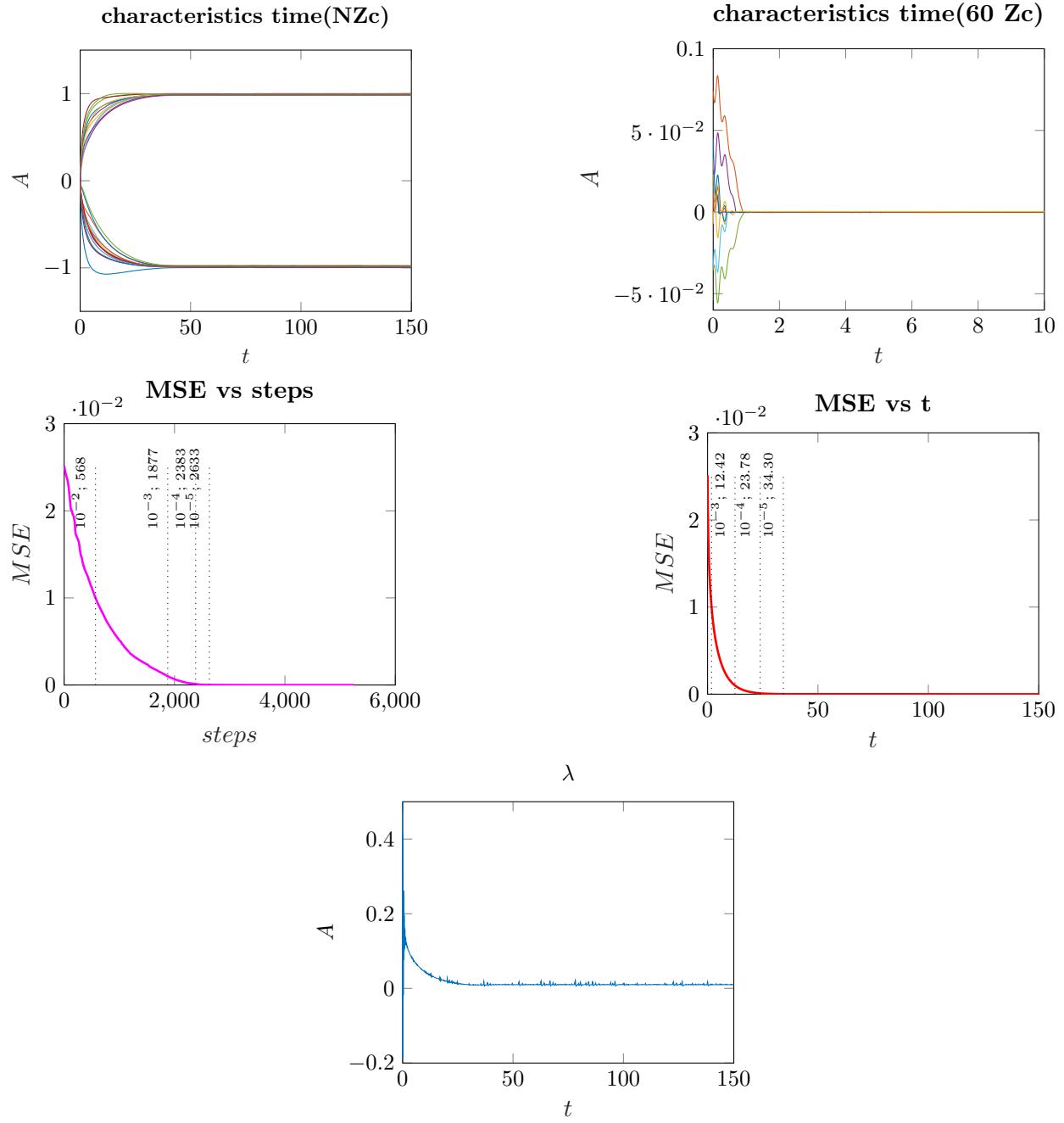
## 2.24 sim 4.174

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
5000	U	$6.8289E - 06$	01 : 07 : 32	150.00	5691	4.174
$A$	$Nz$	$\eta$	$m$	$n$	$\sigma$	
1	25	25	220	1024	0.0020	



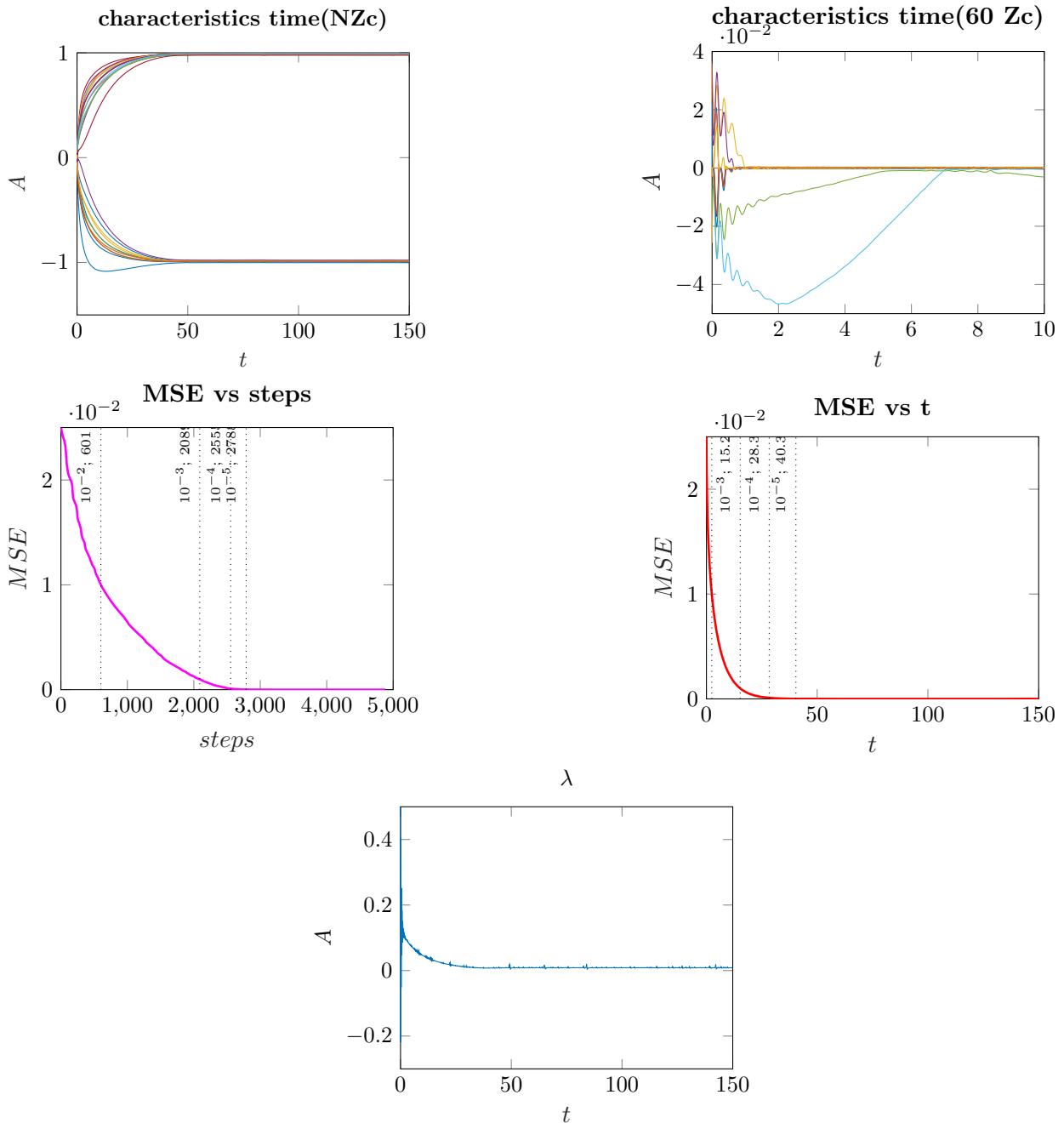
## 2.25 sim 4.175

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
5000	U	$4.8528E - 06$	01 : 01 : 16	150.00	5250	4.175
$A$	$Nz$	$\eta$	$m$	$n$	$\sigma$	
1	25	25	240	1024	0.0020	



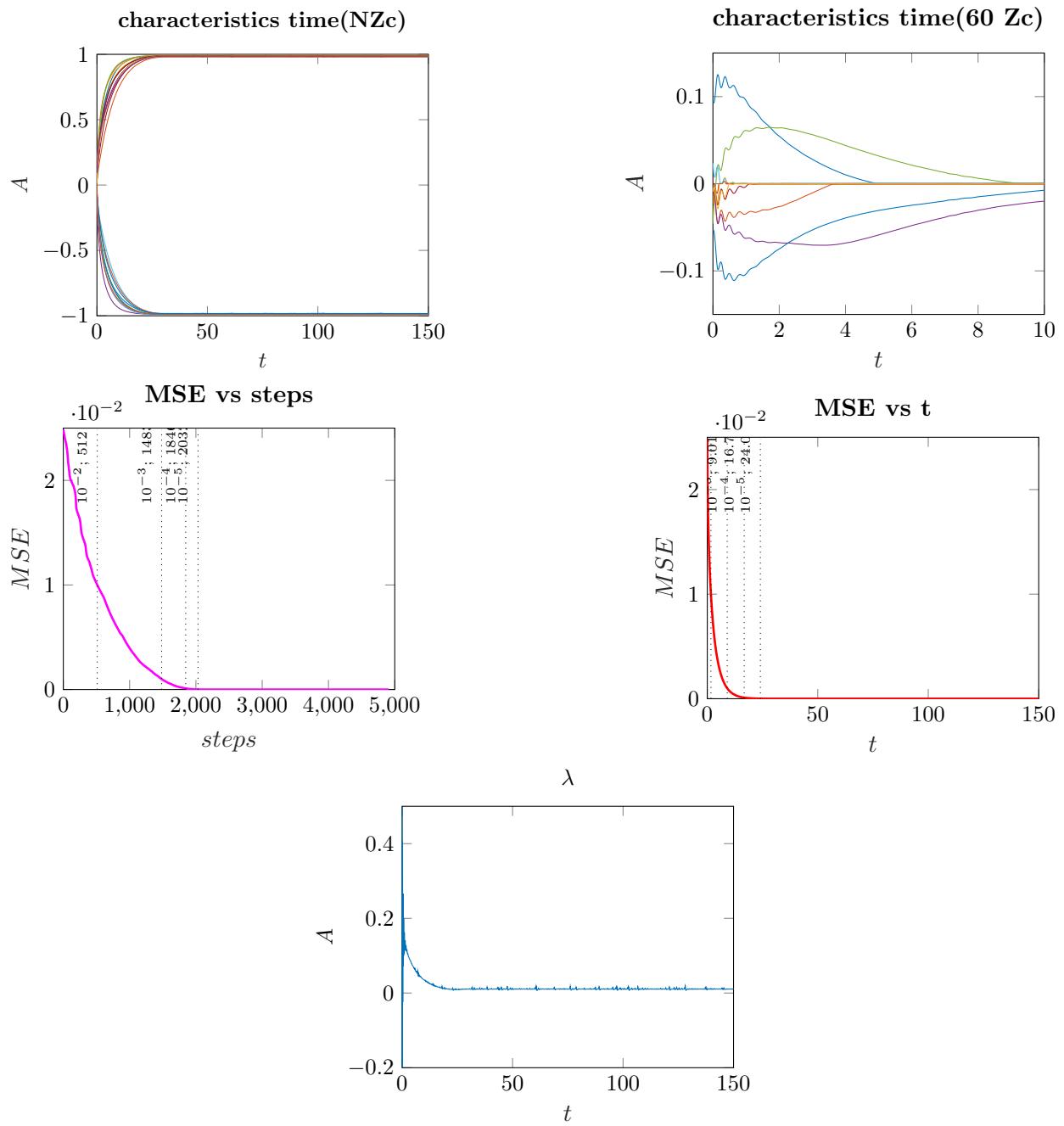
## 2.26 sim 4.176

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
5000	U	$4.9149E - 06$	00 : 57 : 17	150.00	4880	4.176
$A$	$Nz$	$\eta$	$m$	$n$	$\sigma$	
1	25	25	260	1024	0.0020	



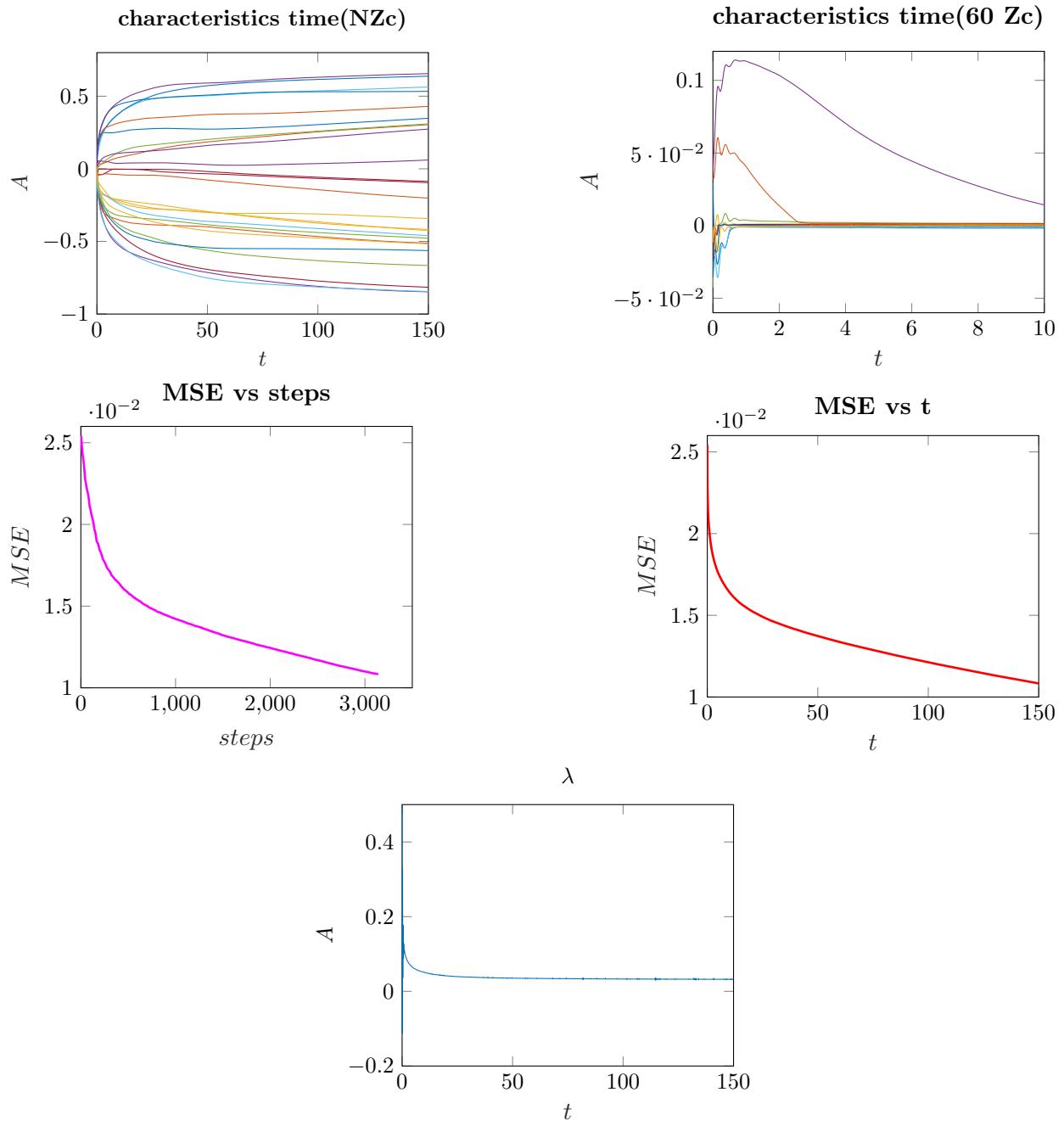
## 2.27 sim 4.177

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
5000	U	4.1591E - 06	00 : 58 : 23	150.00	4910	4.177
$A$	$Nz$	$\eta$	$m$	$n$	$\sigma$	
1	25	25	280	1024	0.0020	



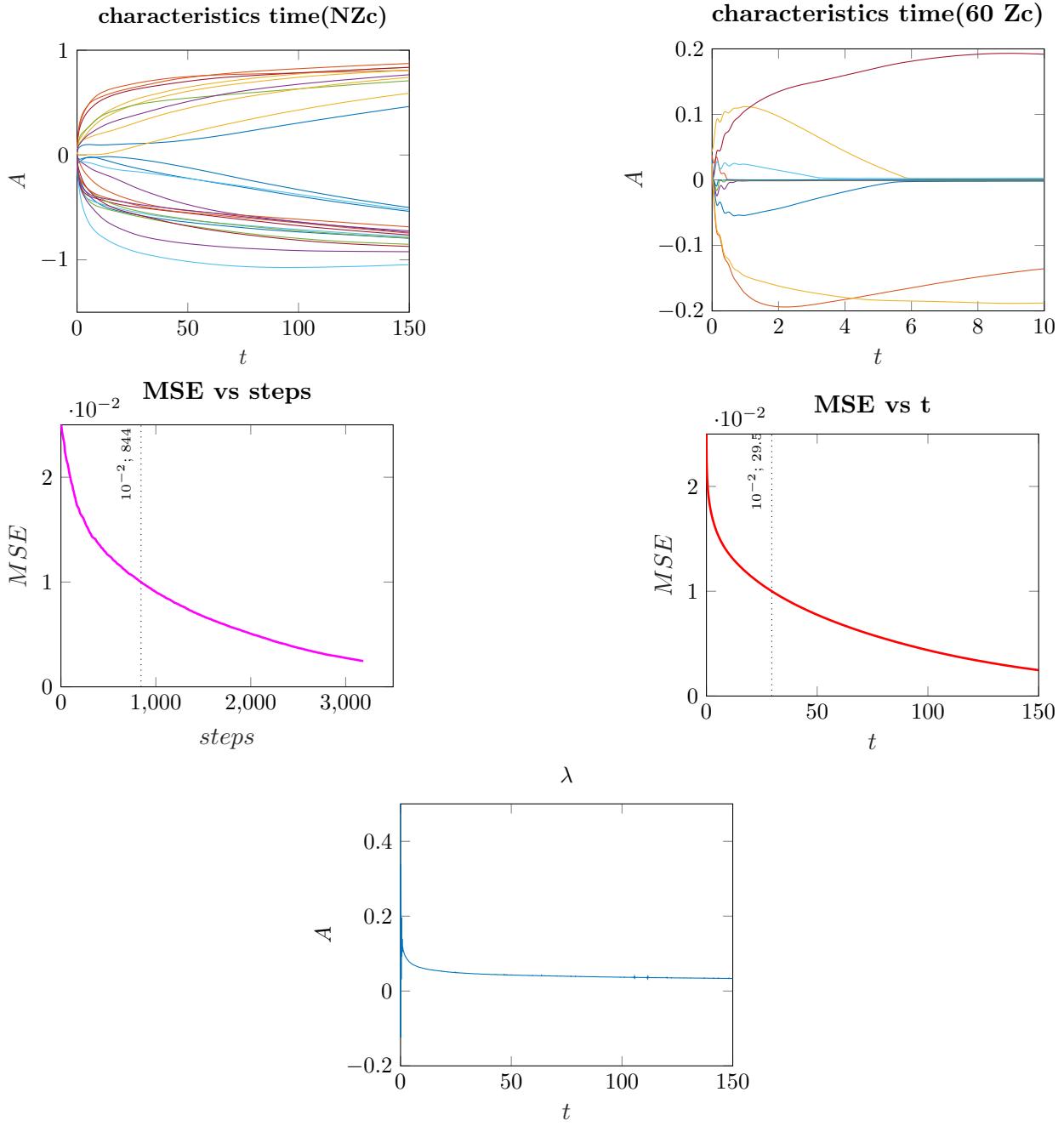
## 2.28 sim 4.178

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id			
1000	U	<b>1.0834E - 02</b>	00 : 35 : 54	150.00	3140	4.178			
				$A$	$Nz$	$\eta$	$m$	$n$	$\sigma$
				1	25	25	120	1024	0.0200



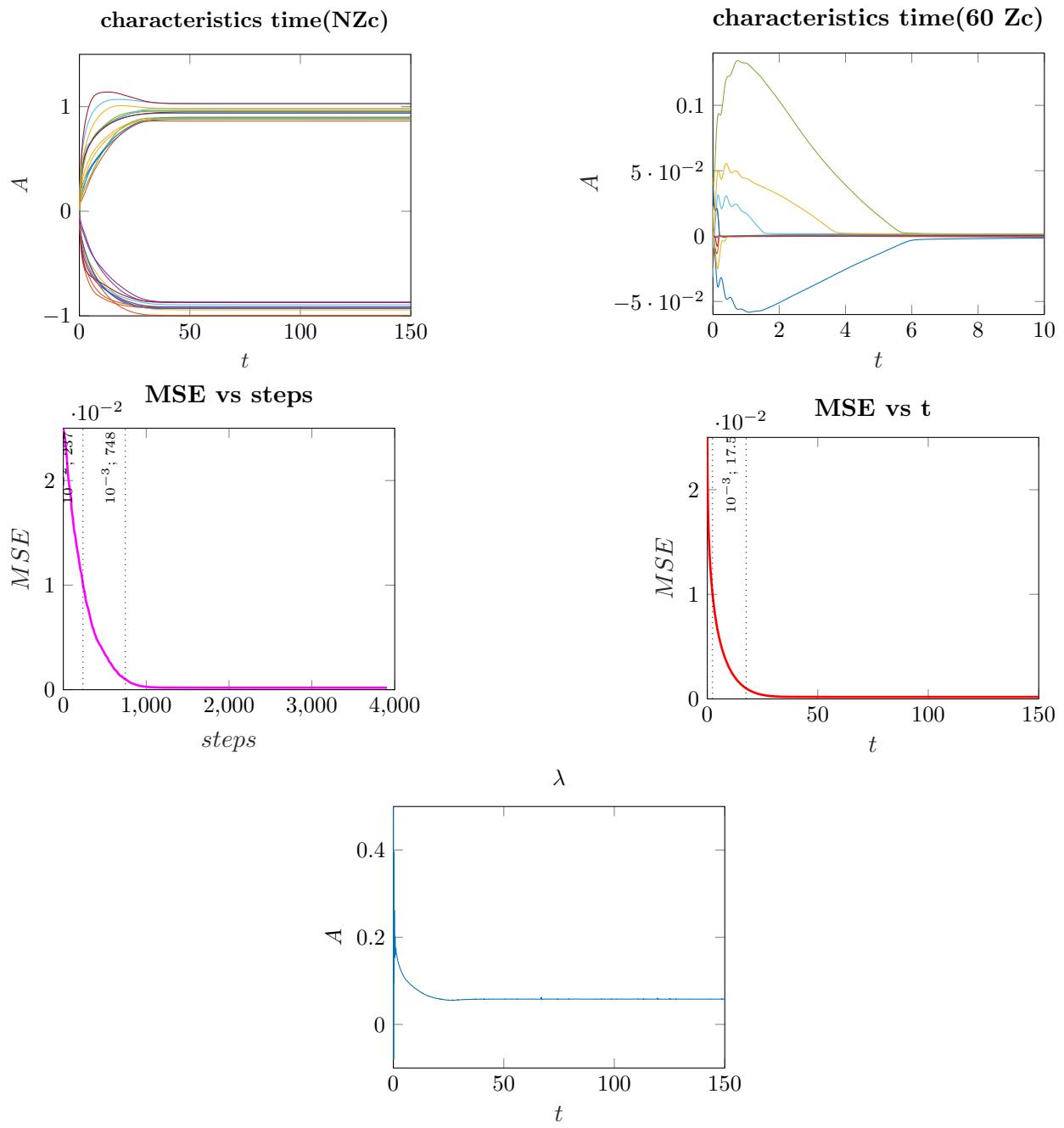
## 2.29 sim 4.179

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
1000	U	$2.4656E - 03$	00 : 36 : 40	150.00	3186	4.179
A	$Nz$	$\eta$	m	n	$\sigma$	
1	25	25	140	1024	0.0200	



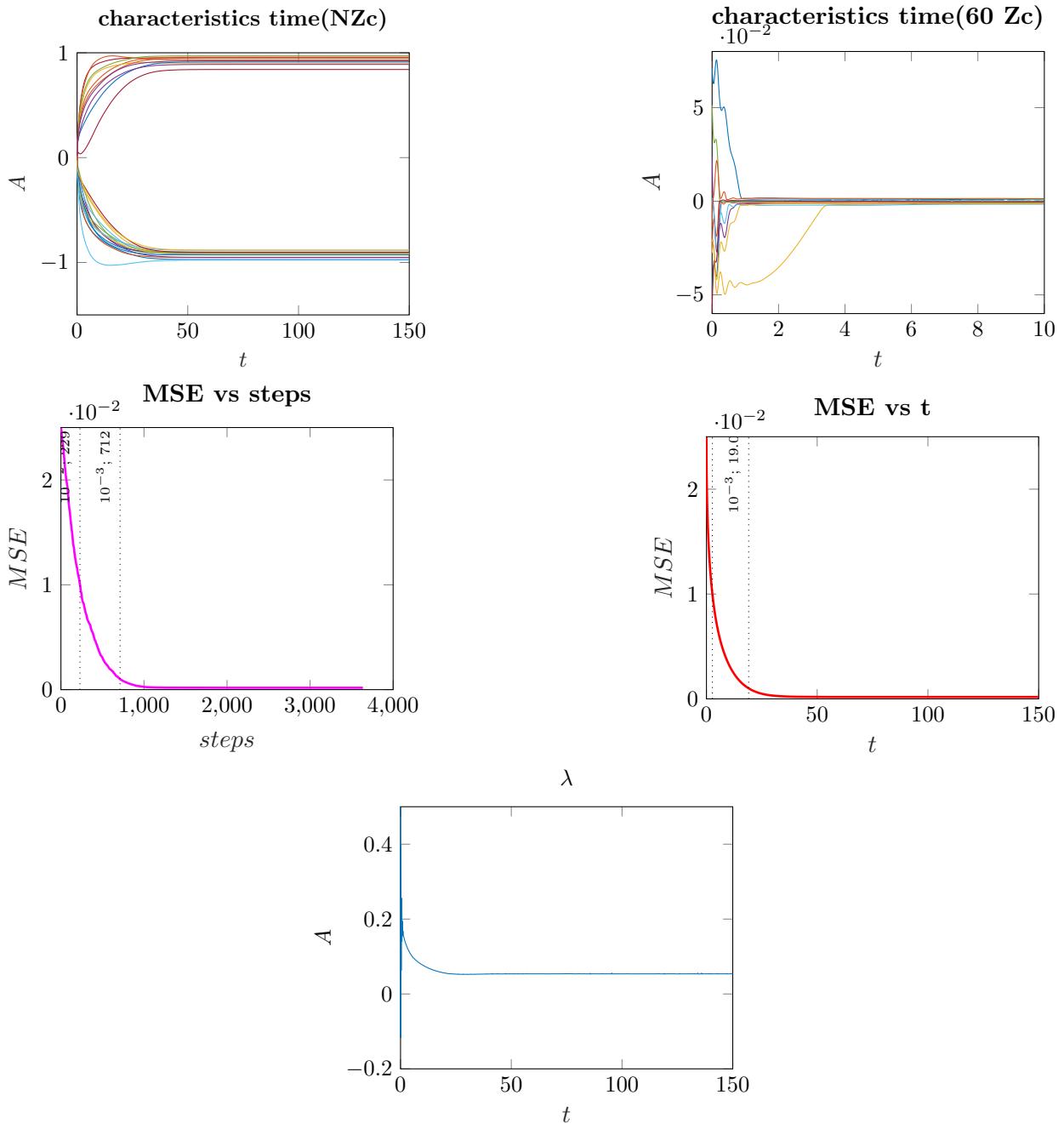
## 2.30 sim 4.180

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
1000	U	$1.8849E - 04$	00 : 45 : 54	150.00	3906	4.180
				$A$	$Nz$	$\eta$
				1	25	25
					$m$	$n$
					160	1024
					$\sigma$	
						0.0200



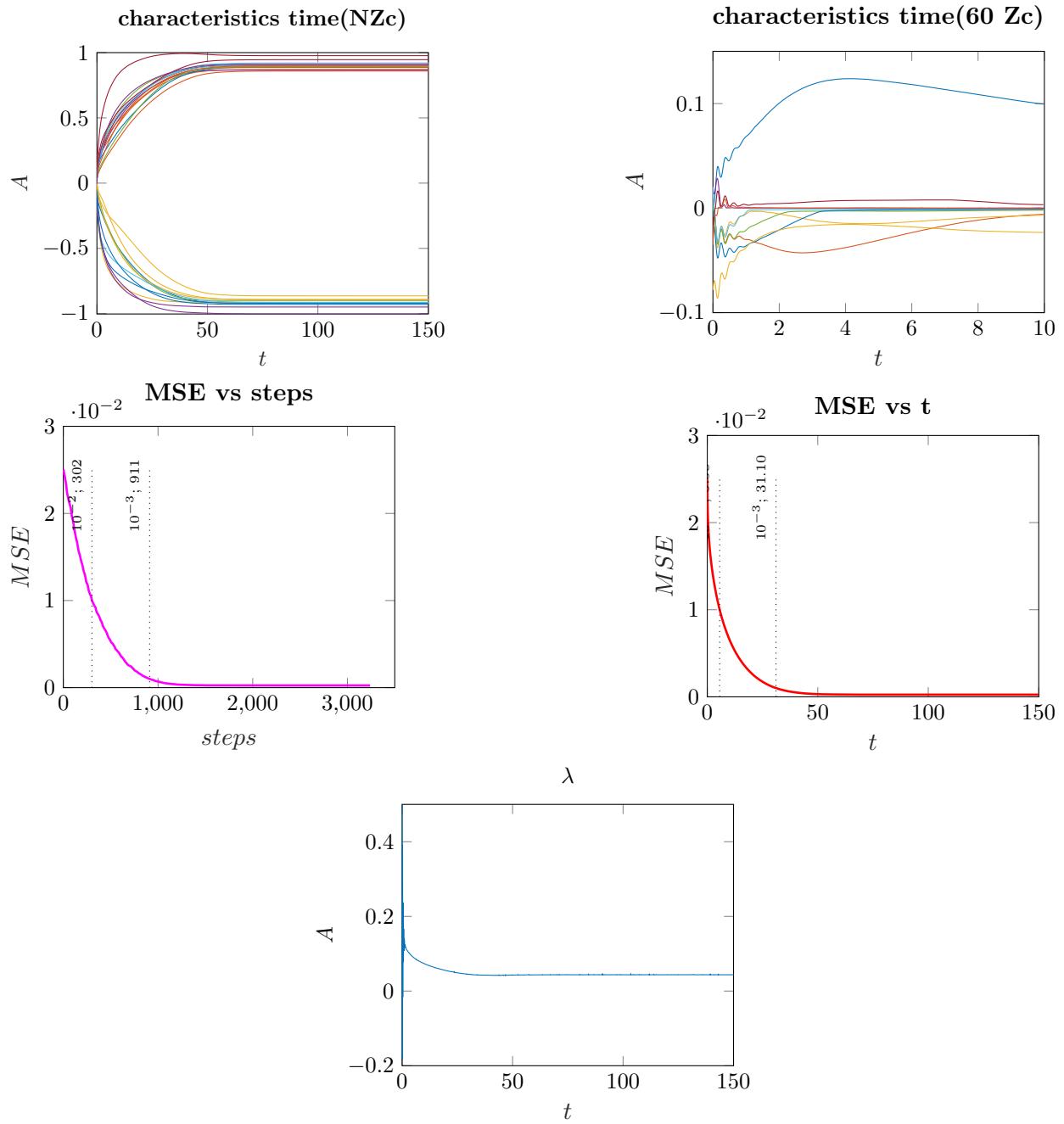
## 2.31 sim 4.181

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
1000	U	$1.8243E - 04$	00 : 42 : 30	150.00	3636	4.181
$A$	$Nz$	$\eta$	$m$	$n$	$\sigma$	
1	25	25	180	1024	0.0200	



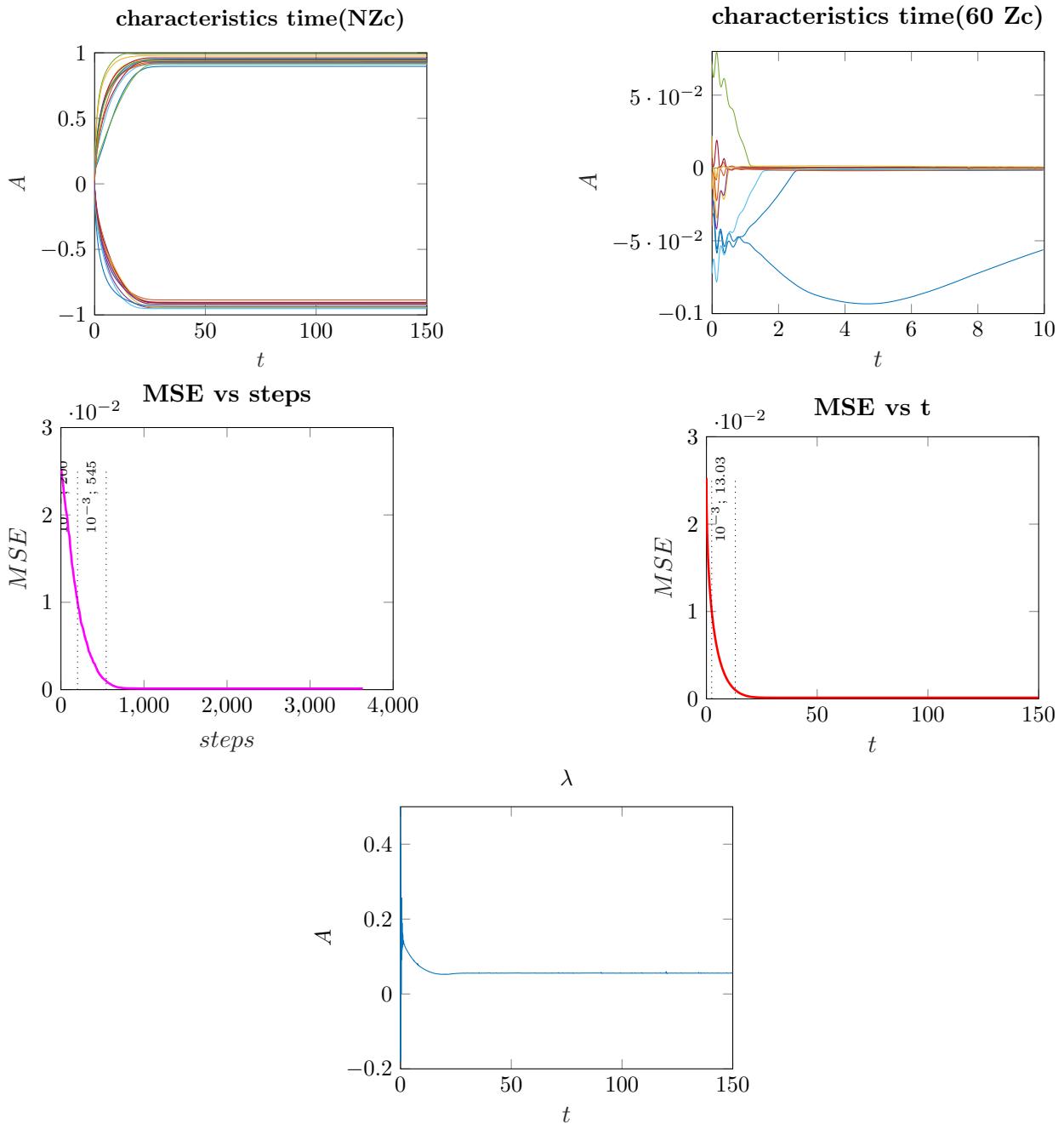
## 2.32 sim 4.182

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id			
1000	U	$2.5023E - 04$	00 : 37 : 08	150.00	3239	4.182			
				$A$	$Nz$	$\eta$	$m$	$n$	$\sigma$
				1	25	25	200	1024	0.0200



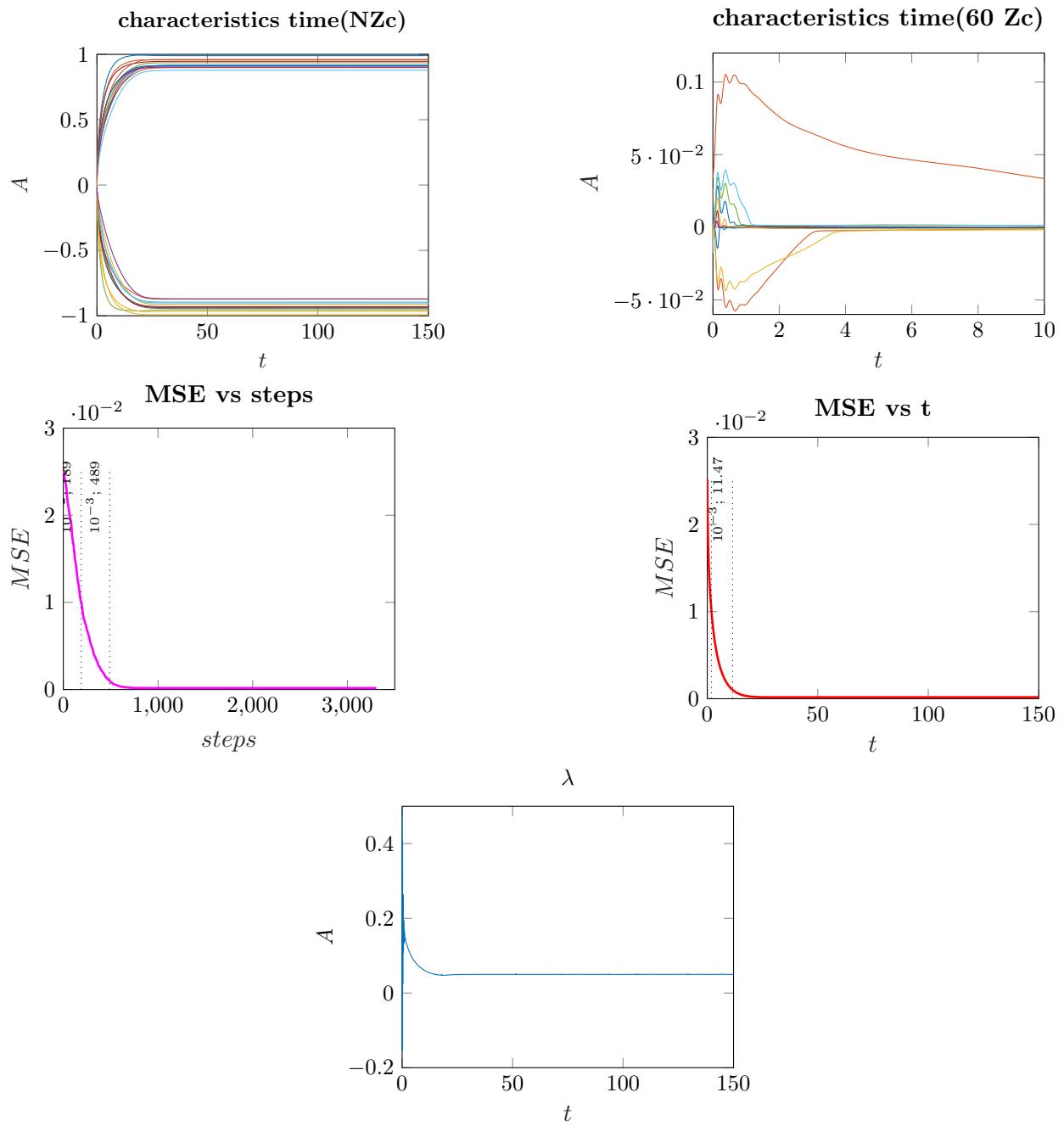
## 2.33 sim 4.183

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
1000	U	$1.3340E - 04$	00 : 42 : 32	150.00	3635	4.183
				$A$	$Nz$	$\eta$
				1	25	25
					220	1024
						$\sigma$
						0.0200



## 2.34 sim 4.184

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
1000	U	$1.6720E - 04$	00 : 39 : 46	150.00	3305	4.184
				$A$	$Nz$	$\eta$
				1	25	25
					240	1024
						$\sigma$
						0.0200

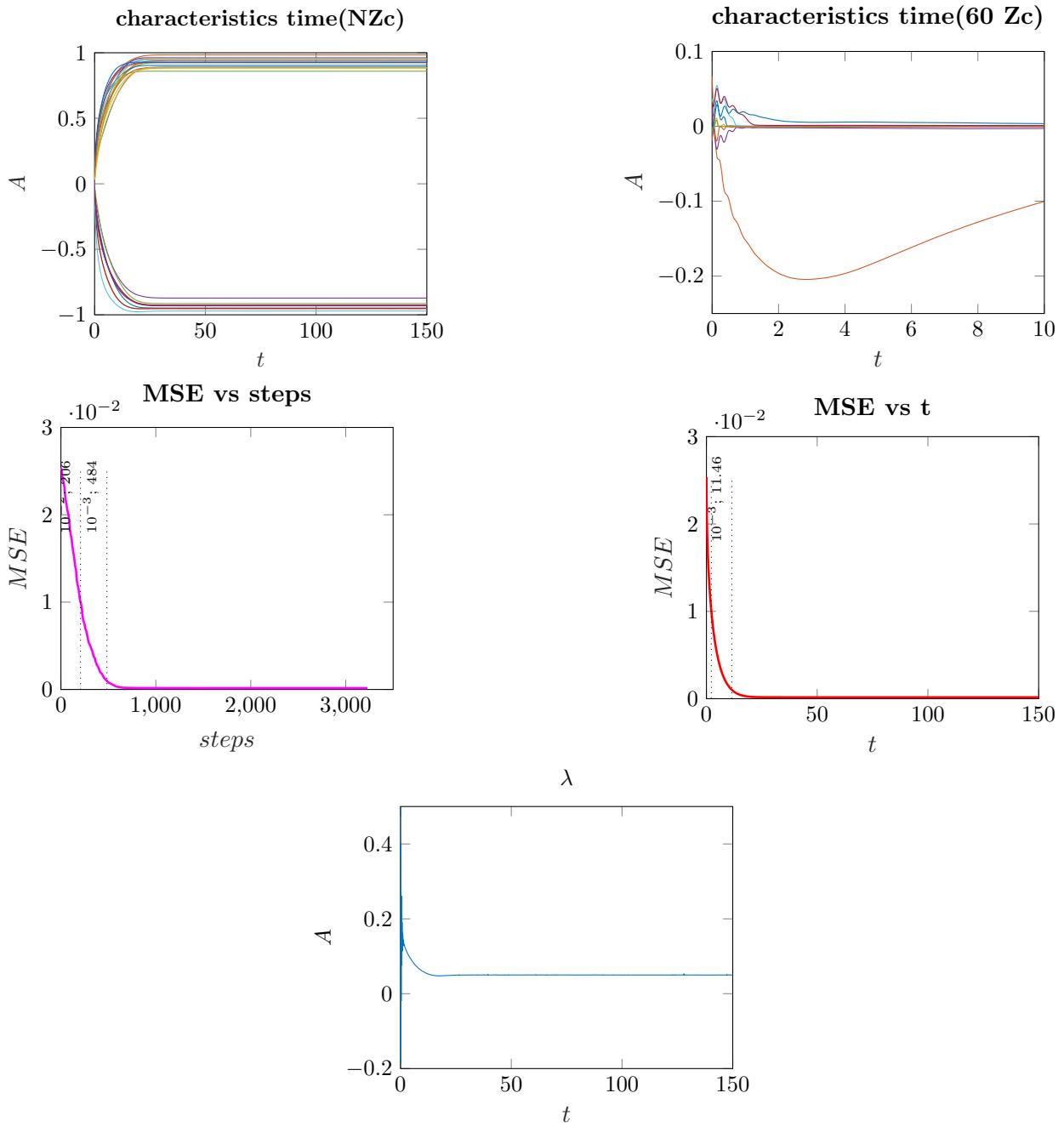


## 2.35 sim 4.185

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
1000	U	$1.6274E - 04$	00 : 39 : 06	150.00	3229	4.185
				$A$	$Nz$	$\eta$
				1	25	25

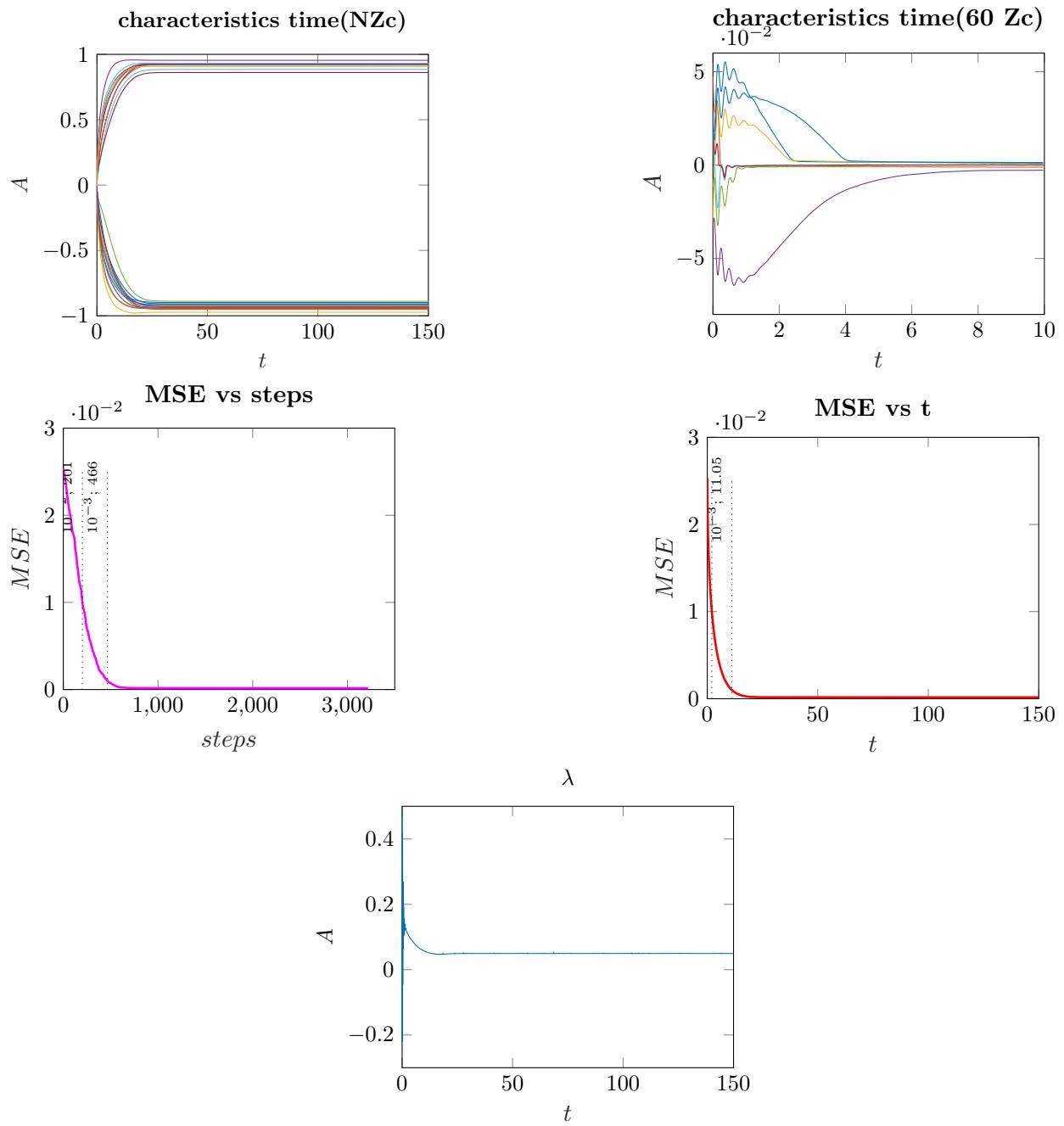
  

$m$	$n$	$\sigma$
260	1024	0.0200



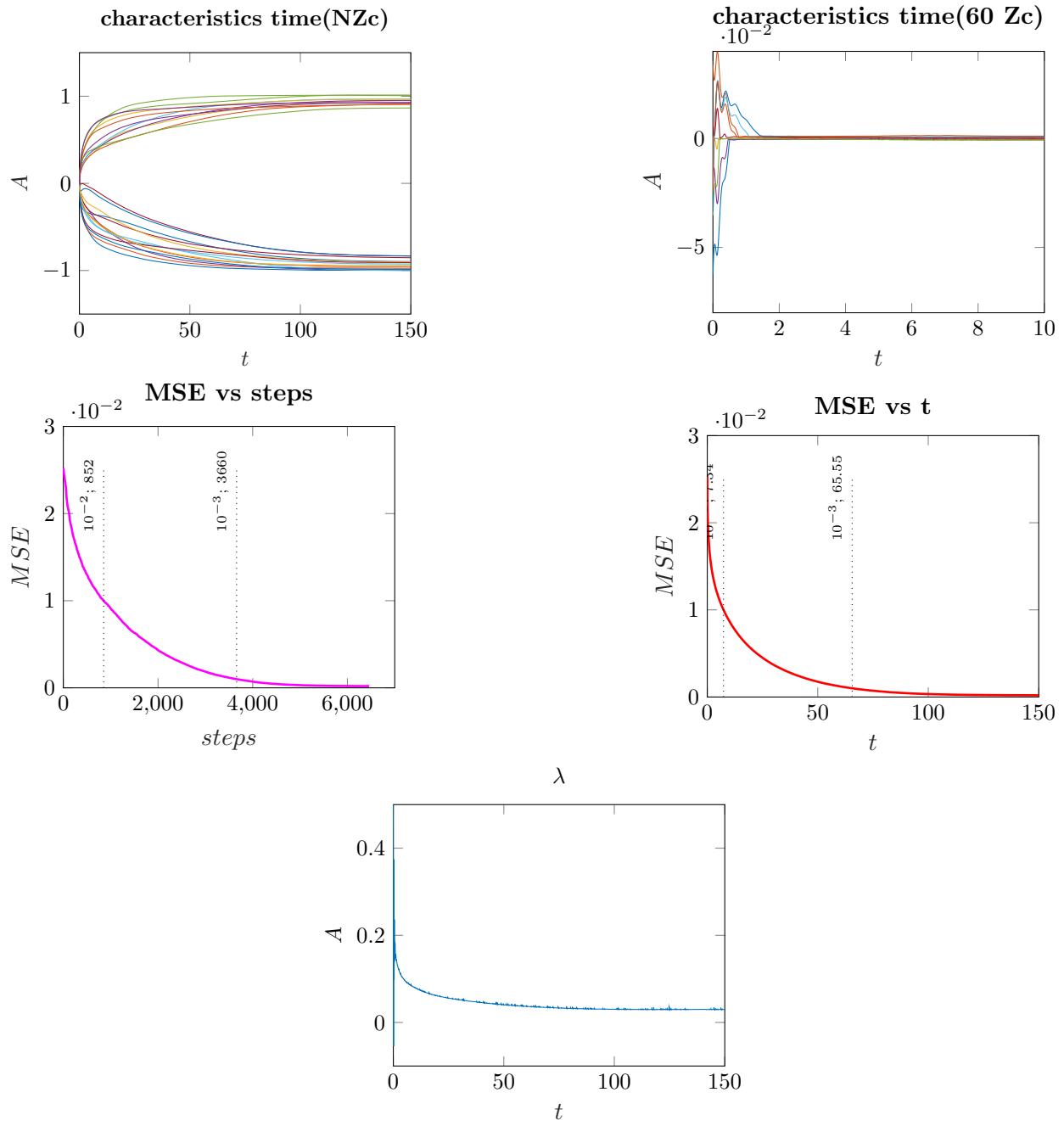
## 2.36 sim 4.186

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
1000	U	$1.6463E - 04$	00 : 38 : 53	150.00	3218	4.186
				$A$	$Nz$	$\eta$
				1	25	25
					280	$m$
					1024	$n$
					0.0200	$\sigma$



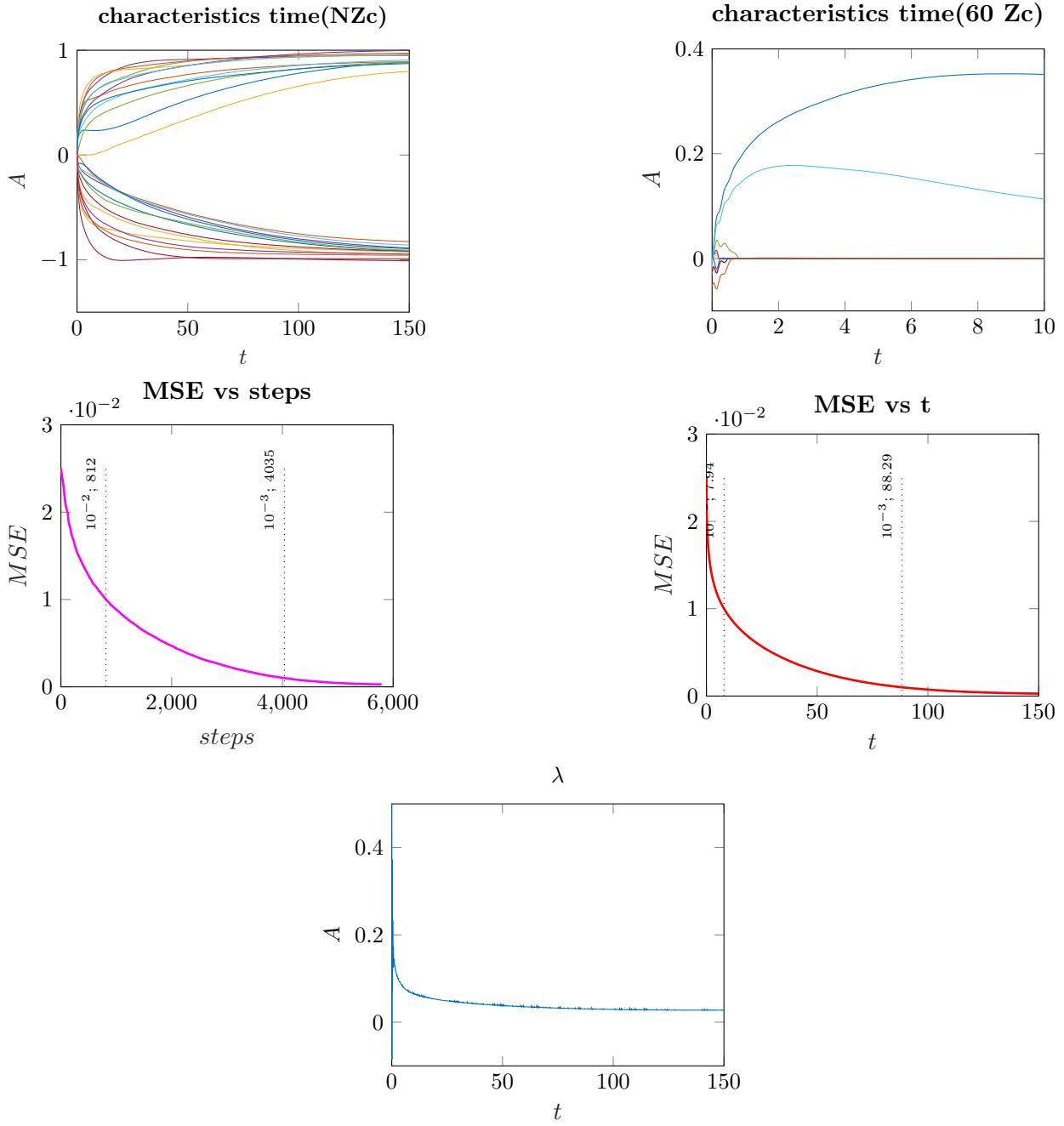
## 2.37 sim 4.187

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
2500	U	$2.0073E - 04$	01 : 14 : 15	150.00	6458	4.187
				$A$	$Nz$	$\eta$
				1	25	25
					$m$	$n$
					120	1024
					$\sigma$	
						0.0200



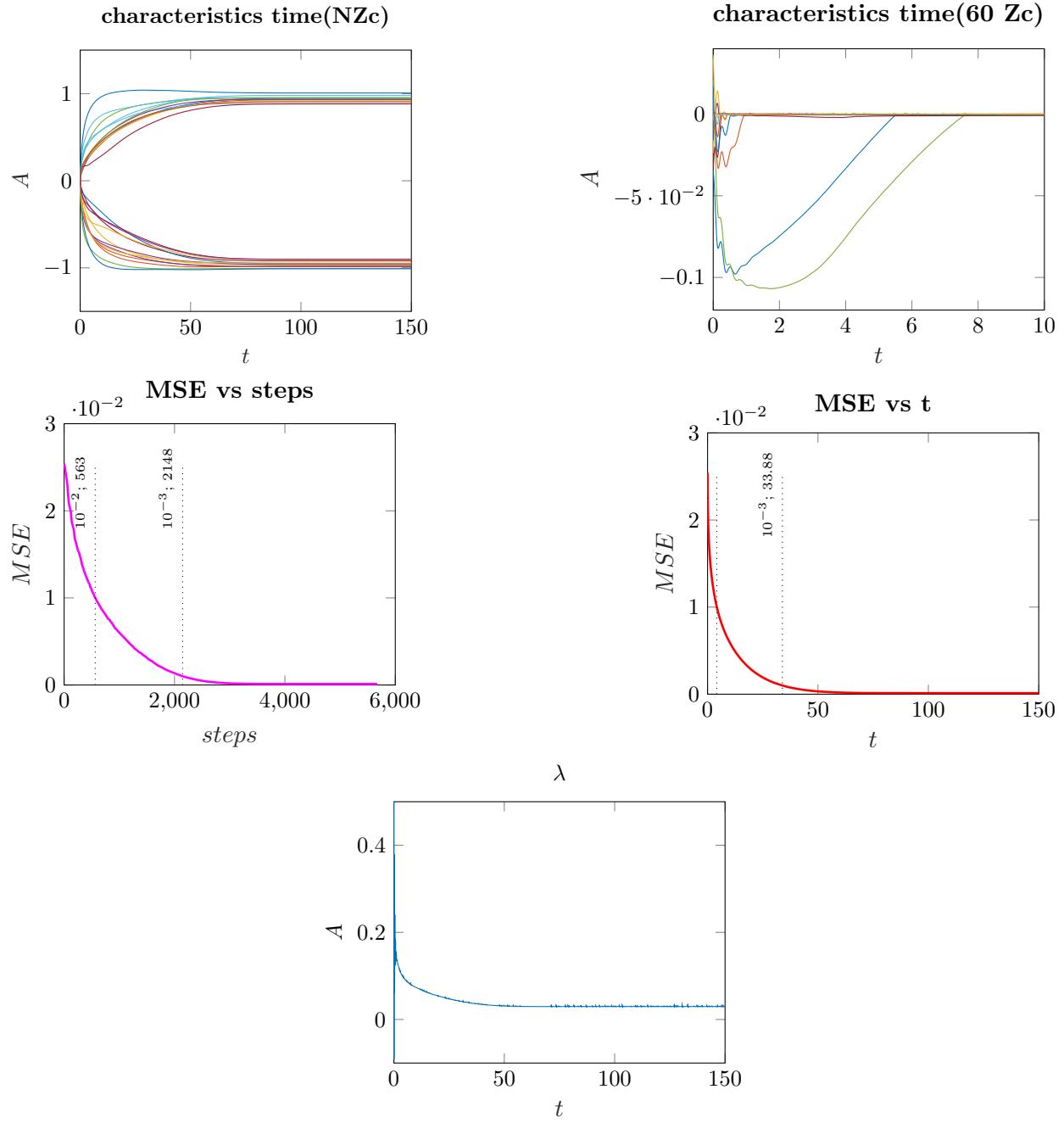
## 2.38 sim 4.188

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
2500	U	$2.7701E - 04$	01 : 06 : 48	150.00	5793	4.188
				$A$	$Nz$	$\eta$
				1	25	25
					$m$	$n$
					140	1024
					$\sigma$	0.0200



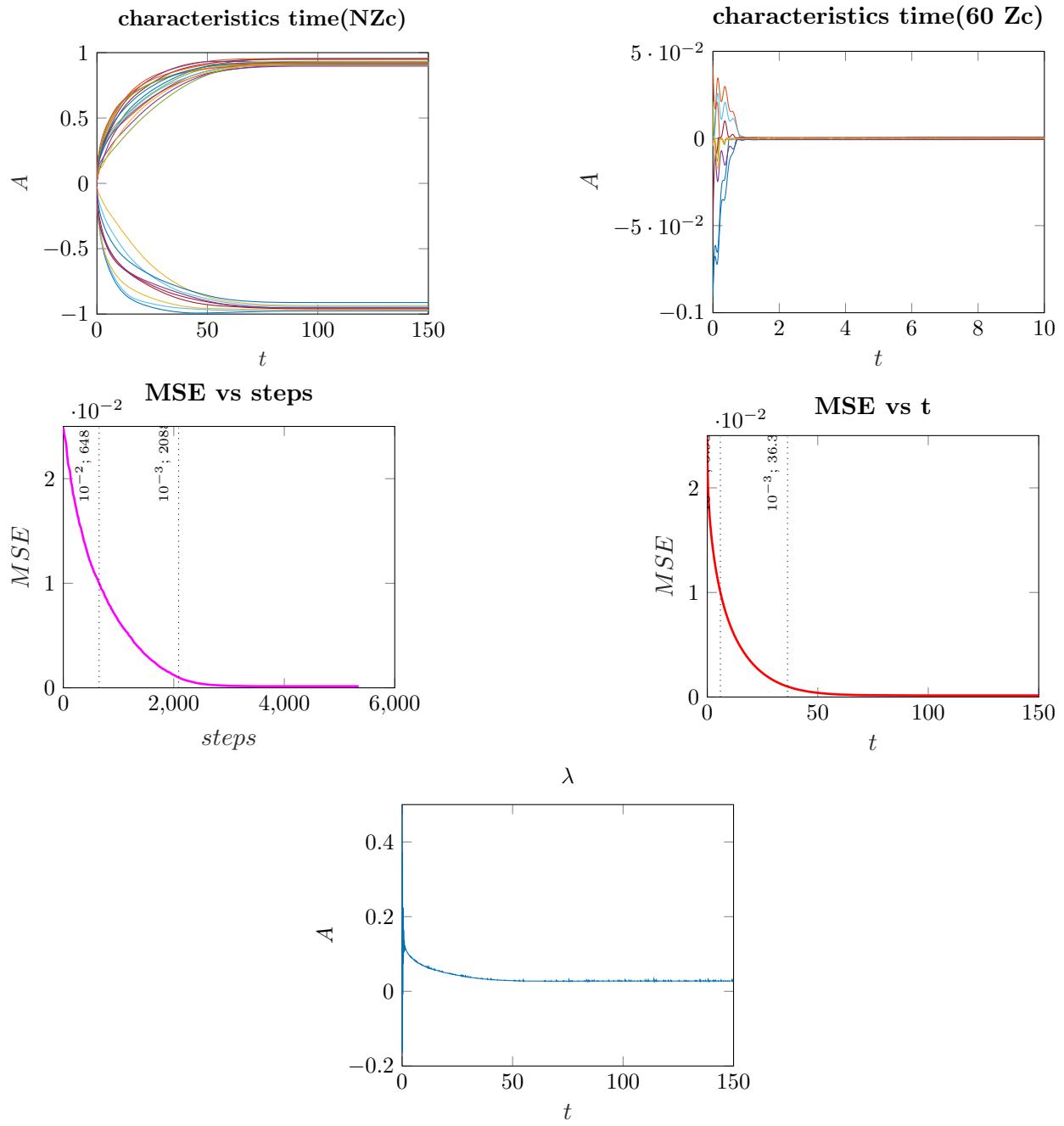
## 2.39 sim 4.189

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
2500	U	$1.2235E - 04$	01 : 05 : 35	150.00	5673	4.189
				$A$	$Nz$	$\eta$
				1	25	25
					$m$	$n$
					160	1024
					$\sigma$	
						0.0200



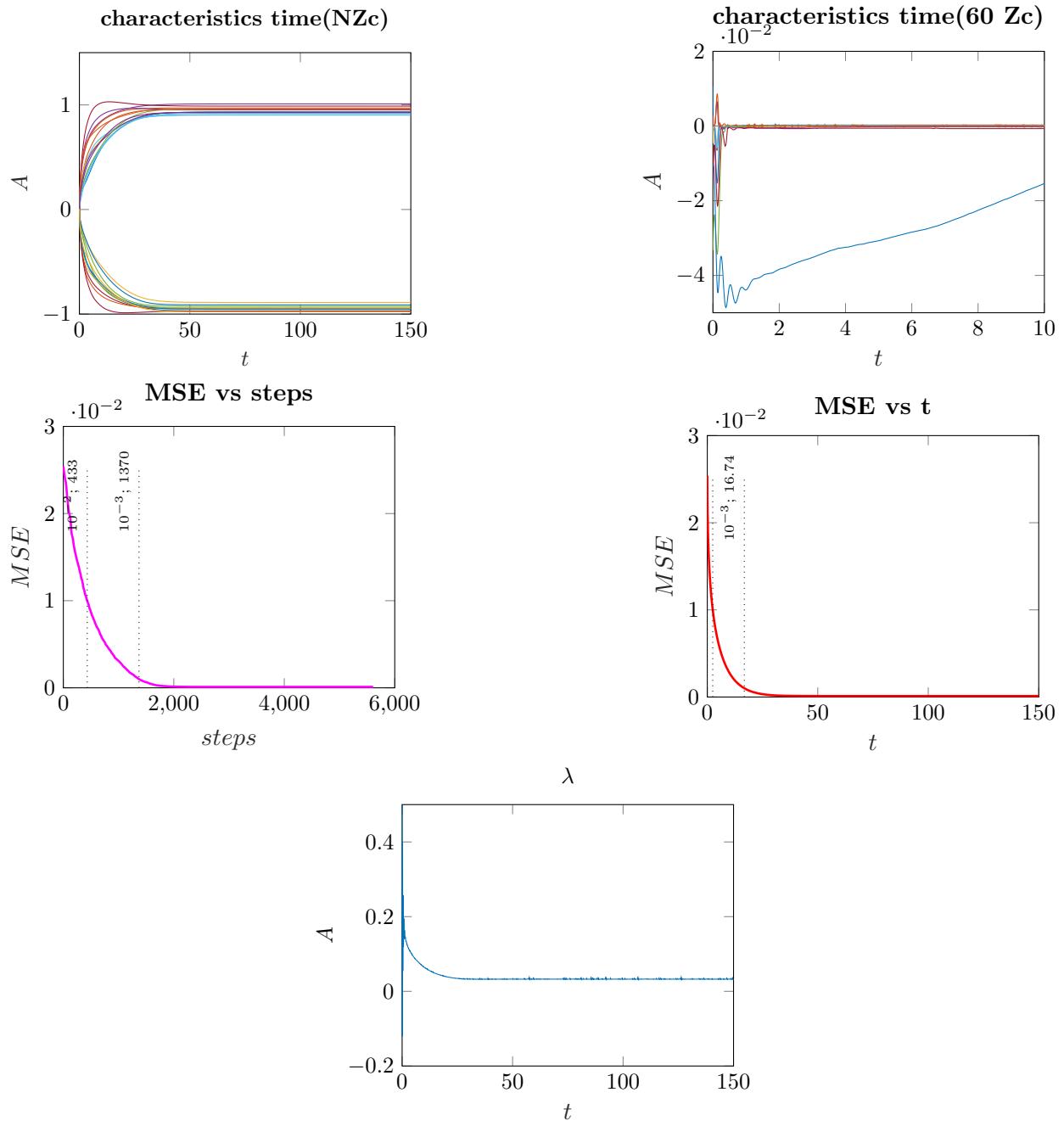
## 2.40 sim 4.190

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
2500	U	$1.4974E - 04$	01 : 01 : 26	150.00	5347	4.190
				$A$	$Nz$	$\eta$
				1	25	25
					$m$	$n$
					180	1024
					$\sigma$	
						0.0200



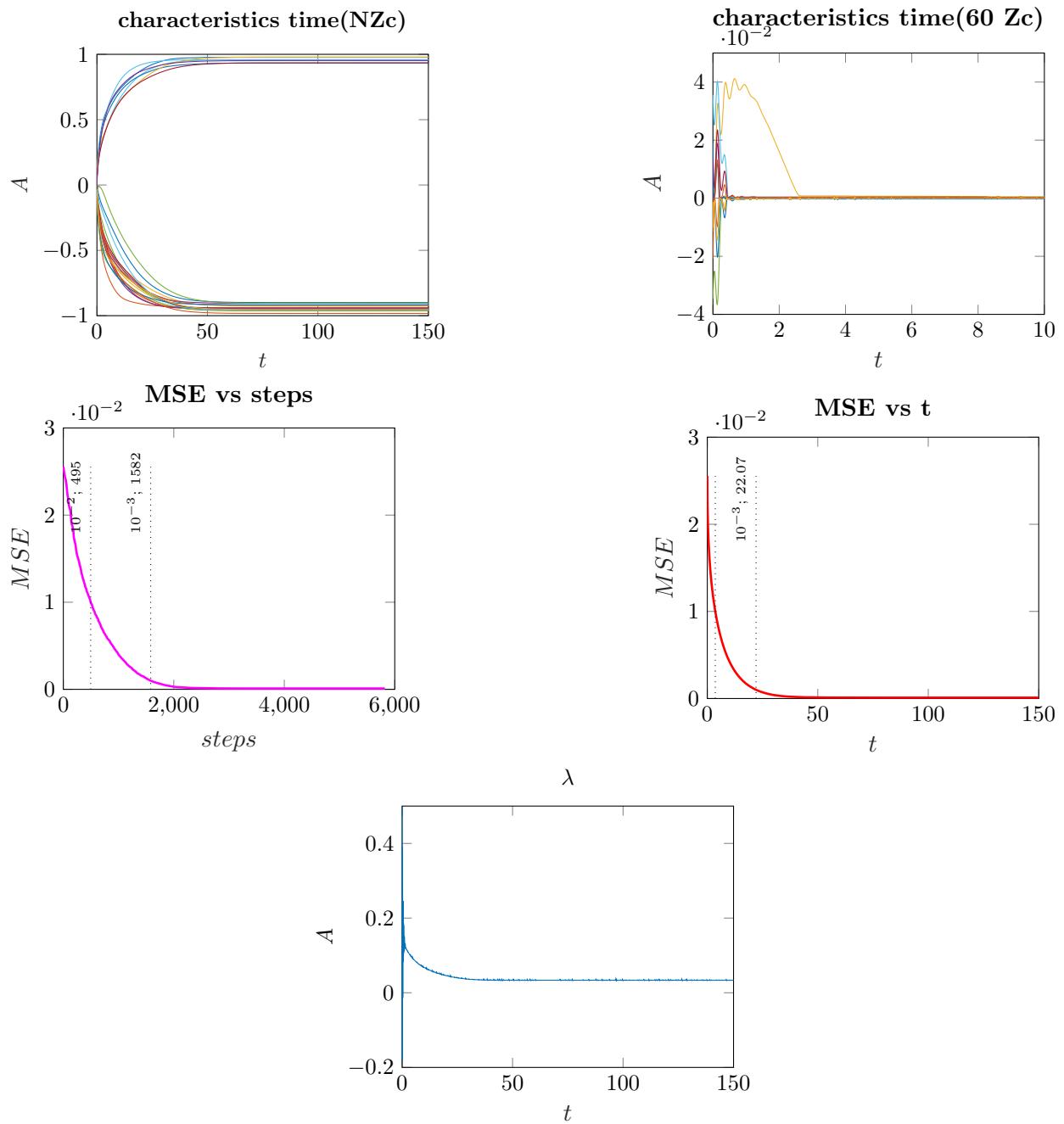
## 2.41 sim 4.191

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
2500	U	$1.0514E - 04$	01 : 04 : 52	150.00	5608	4.191
				$A$	$Nz$	$\eta$
				1	25	25
					$m$	$n$
					200	1024
					$\sigma$	
						0.0200



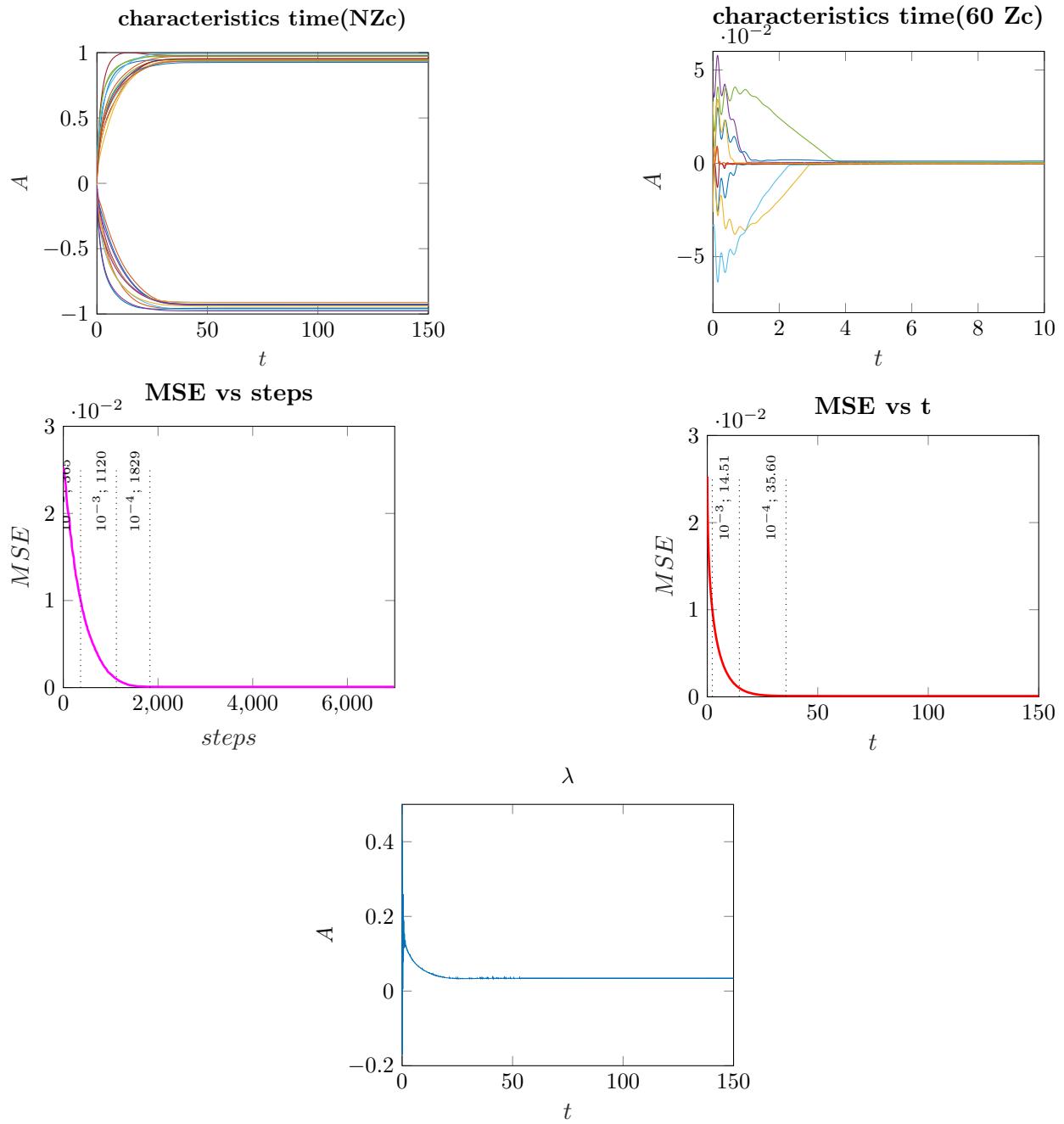
## 2.42 sim 4.192

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
2500	U	$1.0289E - 04$	01 : 06 : 28	150.00	5821	4.192
				$A$	$Nz$	$\eta$
				1	25	25
					$m$	$n$
					220	1024
					$\sigma$	
						0.0200



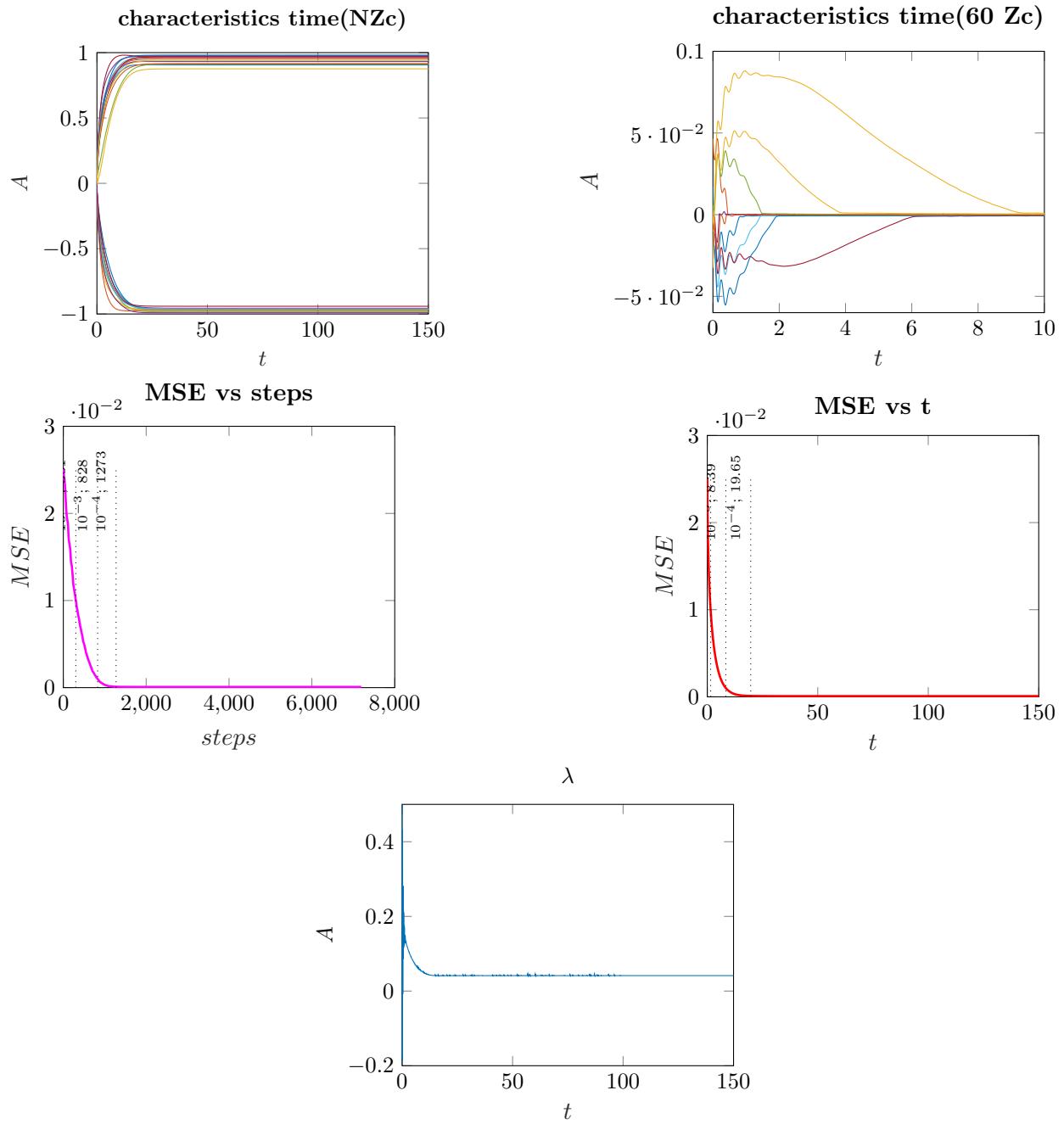
## 2.43 sim 4.193

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
2500	U	$8.9723E - 05$	01 : 17 : 48	150.00	6988	4.193
$A$	$Nz$	$\eta$	$m$	$n$	$\sigma$	
1	25	25	240	1024	0.0200	



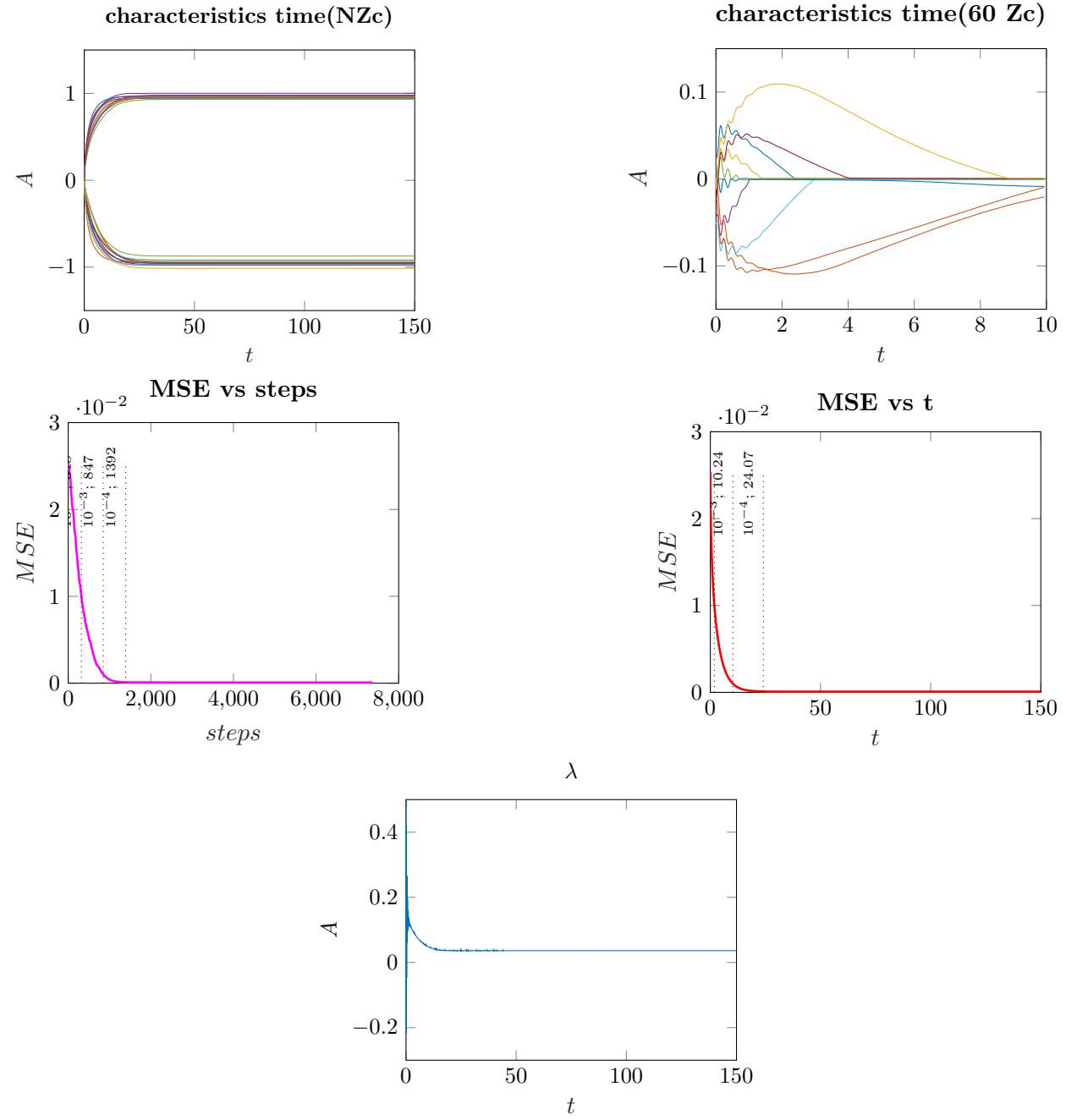
## 2.44 sim 4.194

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
2500	U	$8.0925E - 05$	01 : 21 : 16	150.00	7190	4.194
				$A$	$Nz$	$\eta$
				1	25	25
					260	$m$
					1024	$n$
					0.0200	$\sigma$



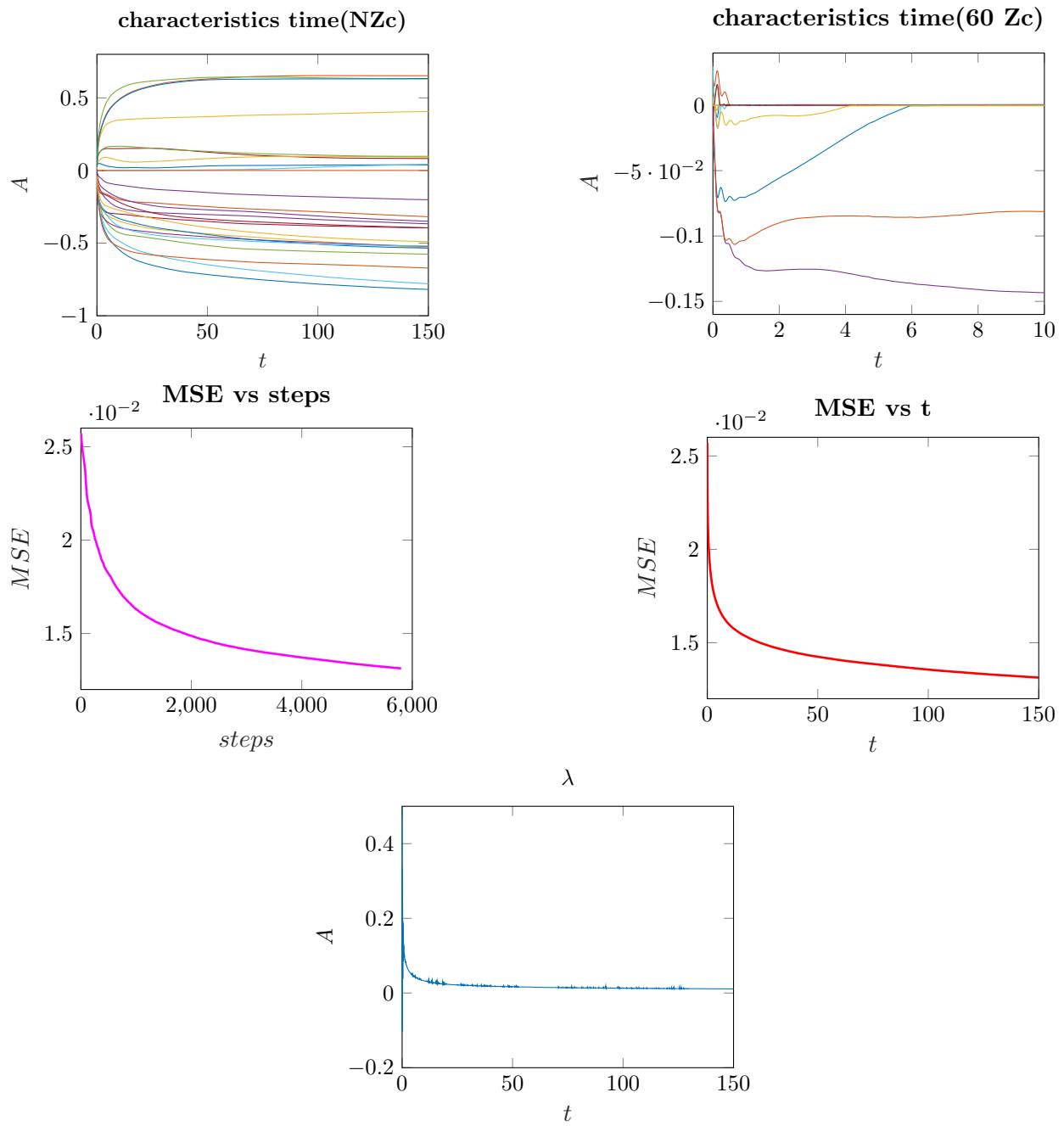
## 2.45 sim 4.195

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
2500	U	$7.9188E - 05$	01 : 22 : 17	150.00	7361	4.195
				$A$	$Nz$	$\eta$
				1	25	25
					280	$m$
					1024	$n$
					0.0200	$\sigma$



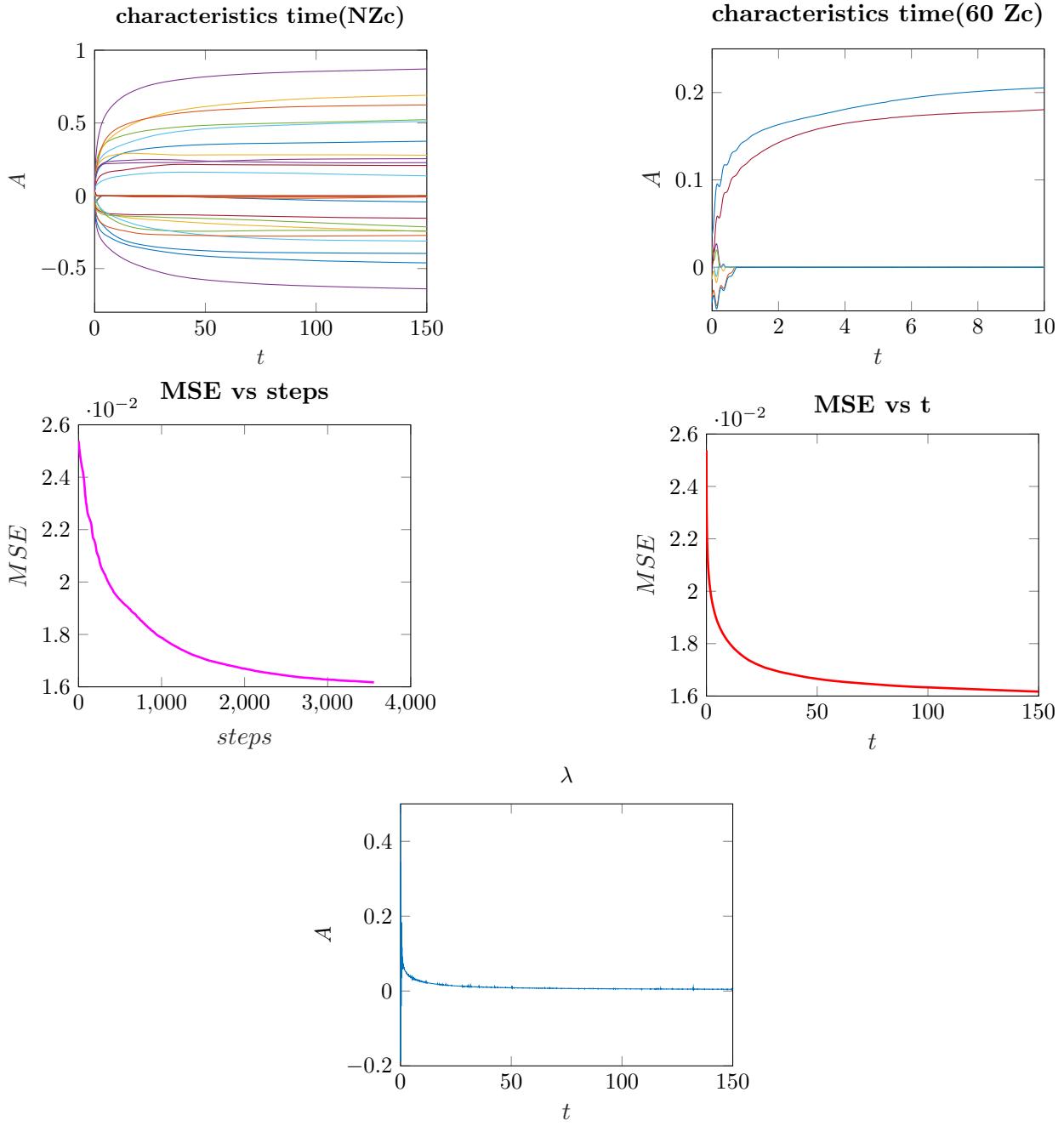
## 2.46 sim 4.196

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
5000	U	$1.3132E - 02$	01 : 25 : 25	150.00	5799	4.196
				$A$	$Nz$	$\eta$
				1	25	25
					$m$	$n$
					120	1024
					$\sigma$	
						0.0200



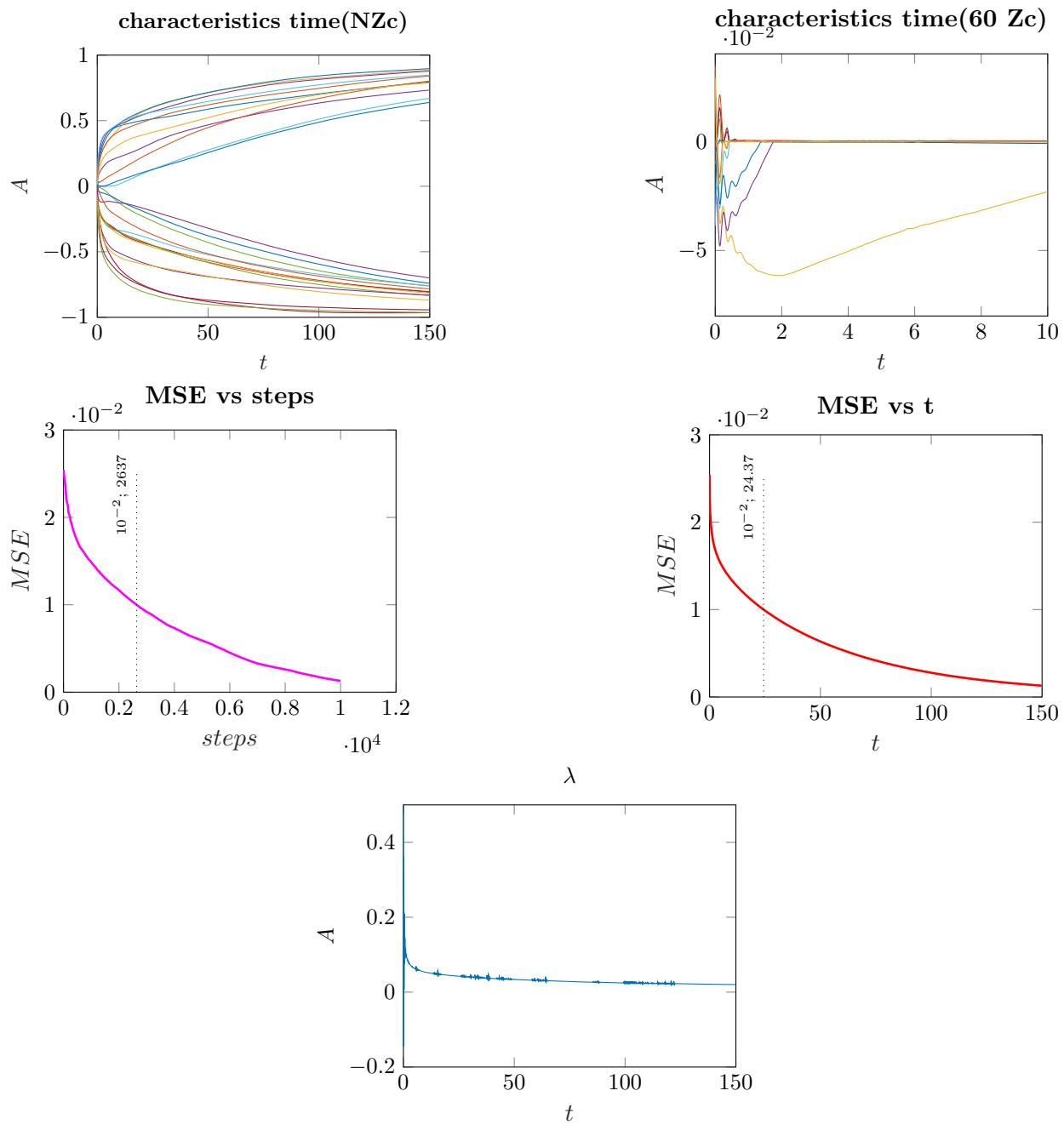
## 2.47 sim 4.197

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
5000	U	$1.6172E - 02$	00 : 52 : 44	150.00	3557	4.197
				$A$	$Nz$	$\eta$
				1	25	25
					140	$m$
					1024	$n$
					0.0200	$\sigma$



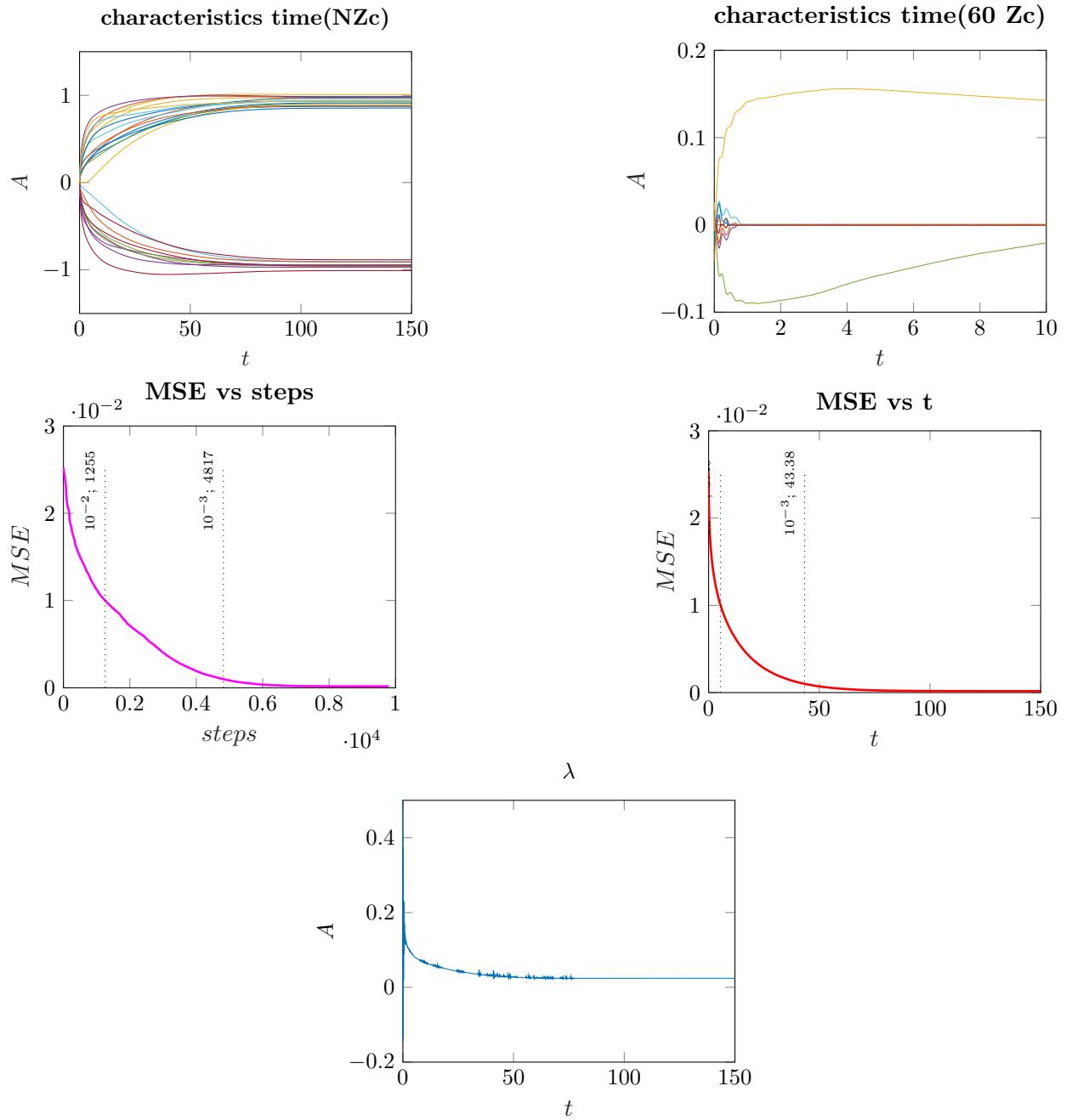
## 2.48 sim 4.198

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
5000	U	$1.2890E - 03$	02 : 27 : 23	149.82	10001	4.198
		$A$	$Nz$	$\eta$	$m$	$n$
		1	25	25	160	1024
						$\sigma$
						0.0200



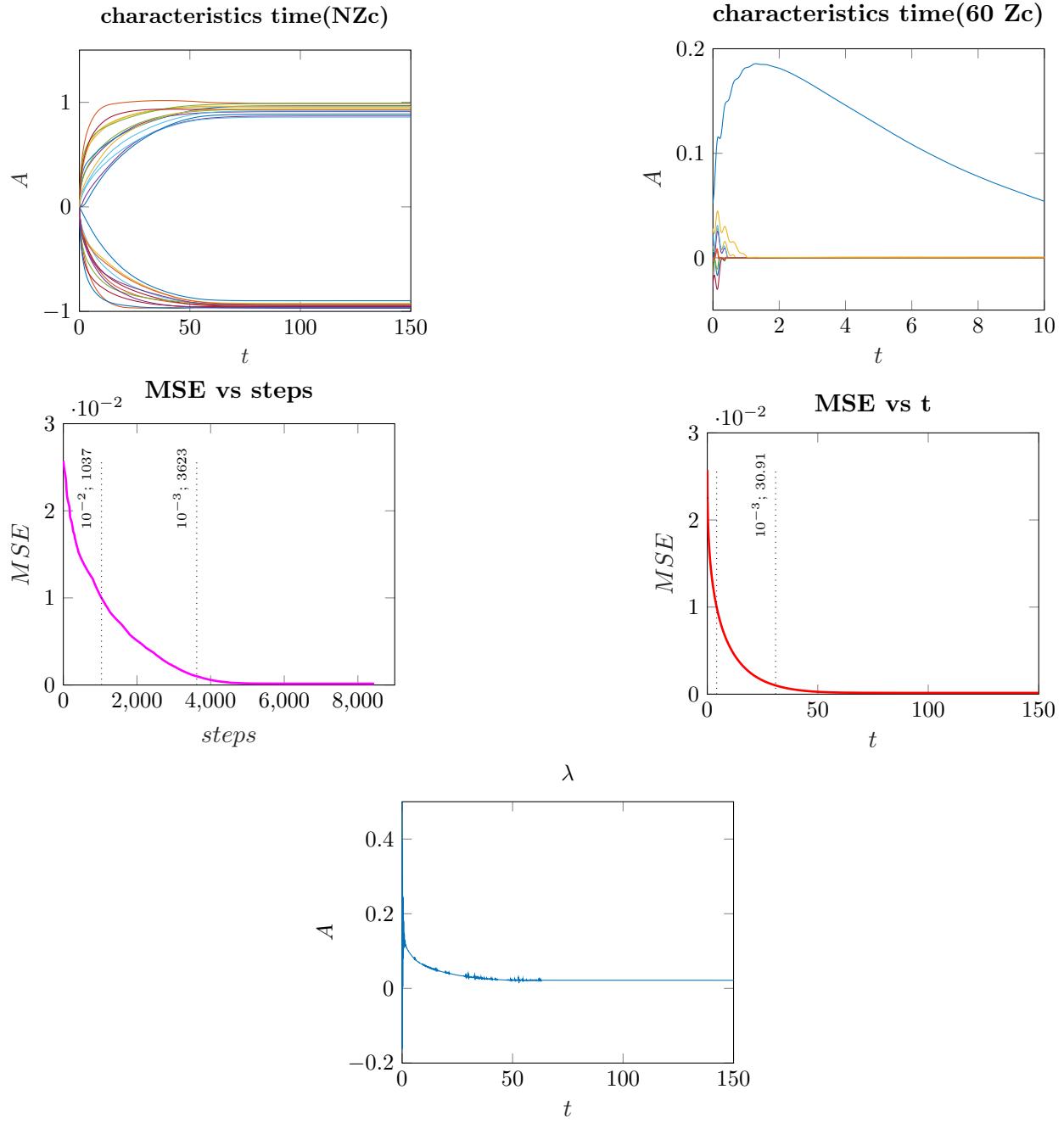
## 2.49 sim 4.199

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
5000	U	$1.7239E - 04$	02 : 25 : 23	150.00	9795	4.199
$A$	$Nz$	$\eta$	$m$	$n$	$\sigma$	
1	25	25	180	1024	0.0200	



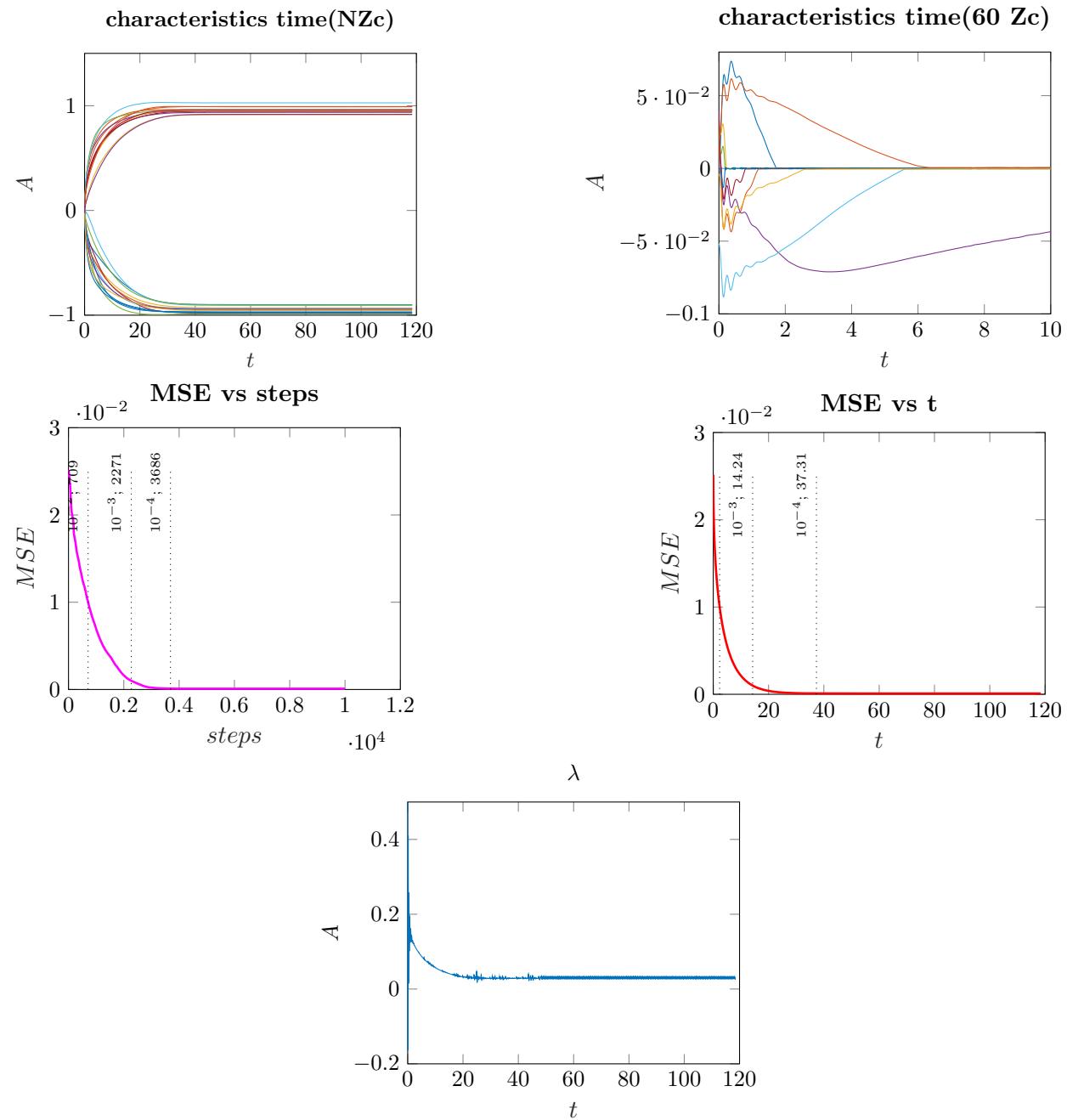
## 2.50 sim 4.200

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
5000	U	$1.5313E - 04$	02 : 09 : 13	150.00	8441	4.200
$A$	$Nz$	$\eta$	$m$	$n$	$\sigma$	
1	25	25	200	1024	0.0200	



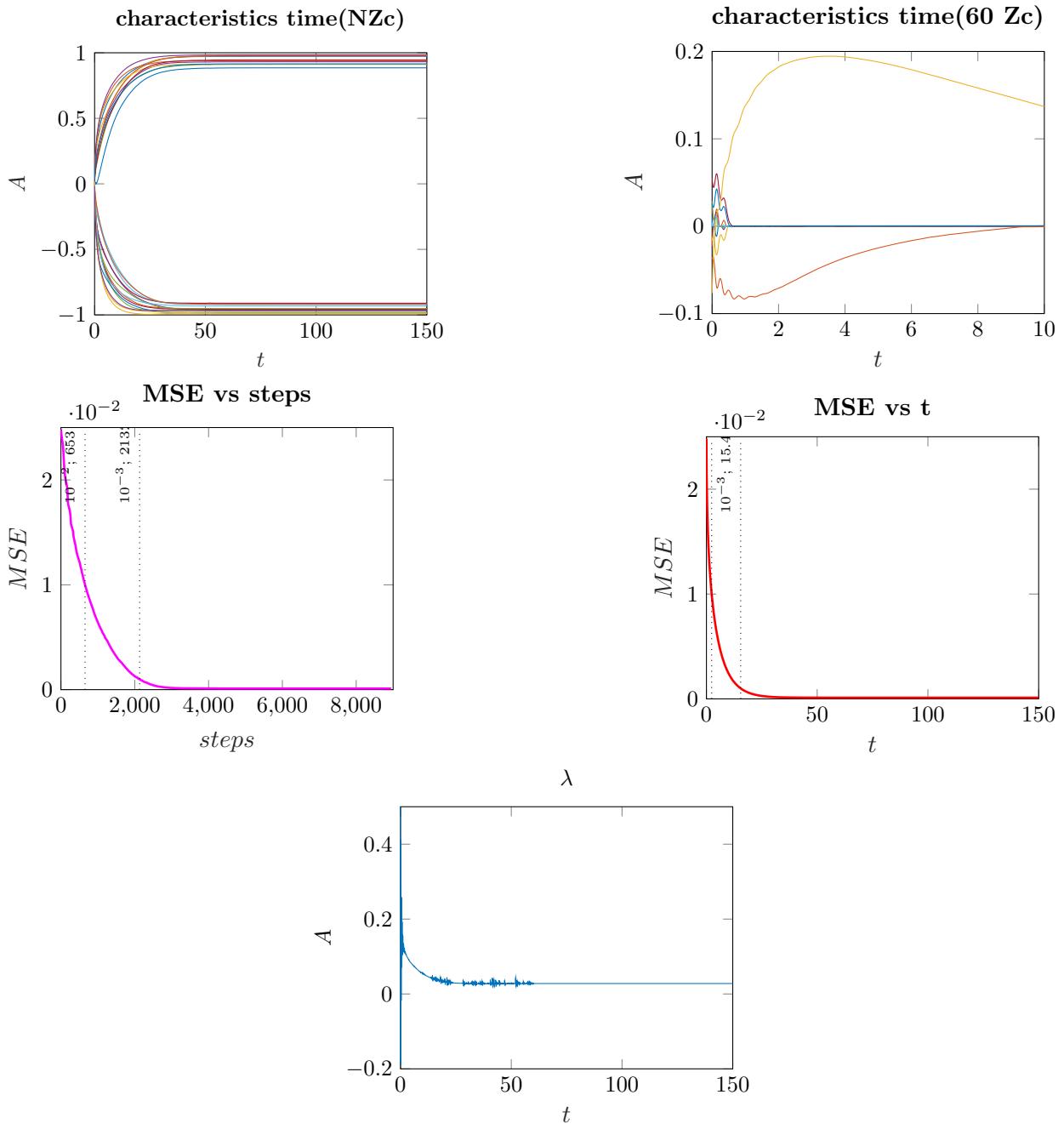
## 2.51 sim 4.201

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
5000	U	$9.2207E - 05$	01 : 52 : 11	118.43	10001	4.201
$A$	$Nz$	$\eta$	$m$	$n$	$\sigma$	
1	25	25	220	1024	0.0200	



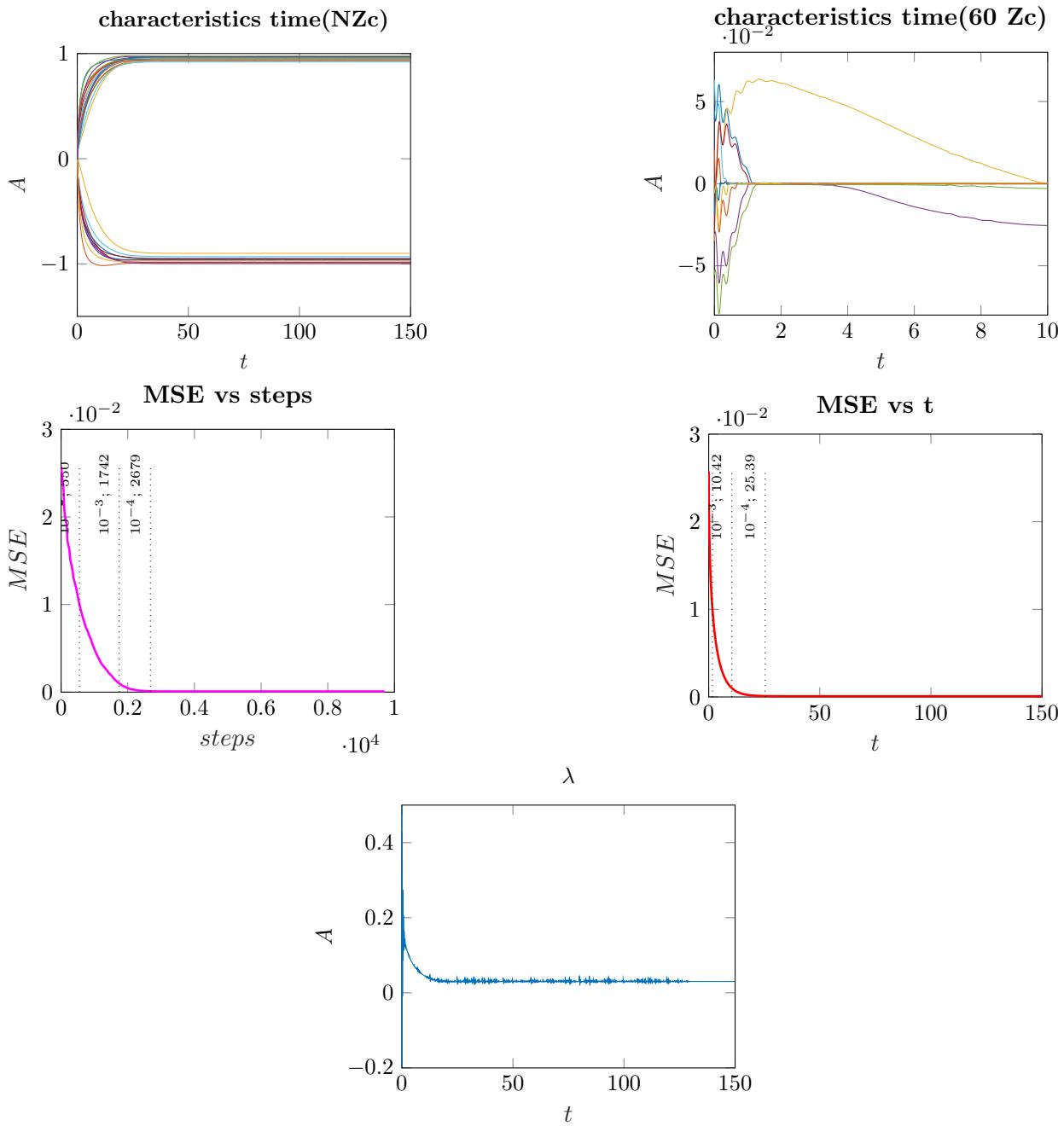
## 2.52 sim 4.202

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
5000	U	$1.0996E - 04$	01 : 41 : 11	150.00	8946	4.202
				$A$	$Nz$	$\eta$
				1	25	25
					240	$m$
					1024	$n$
					0.0200	$\sigma$



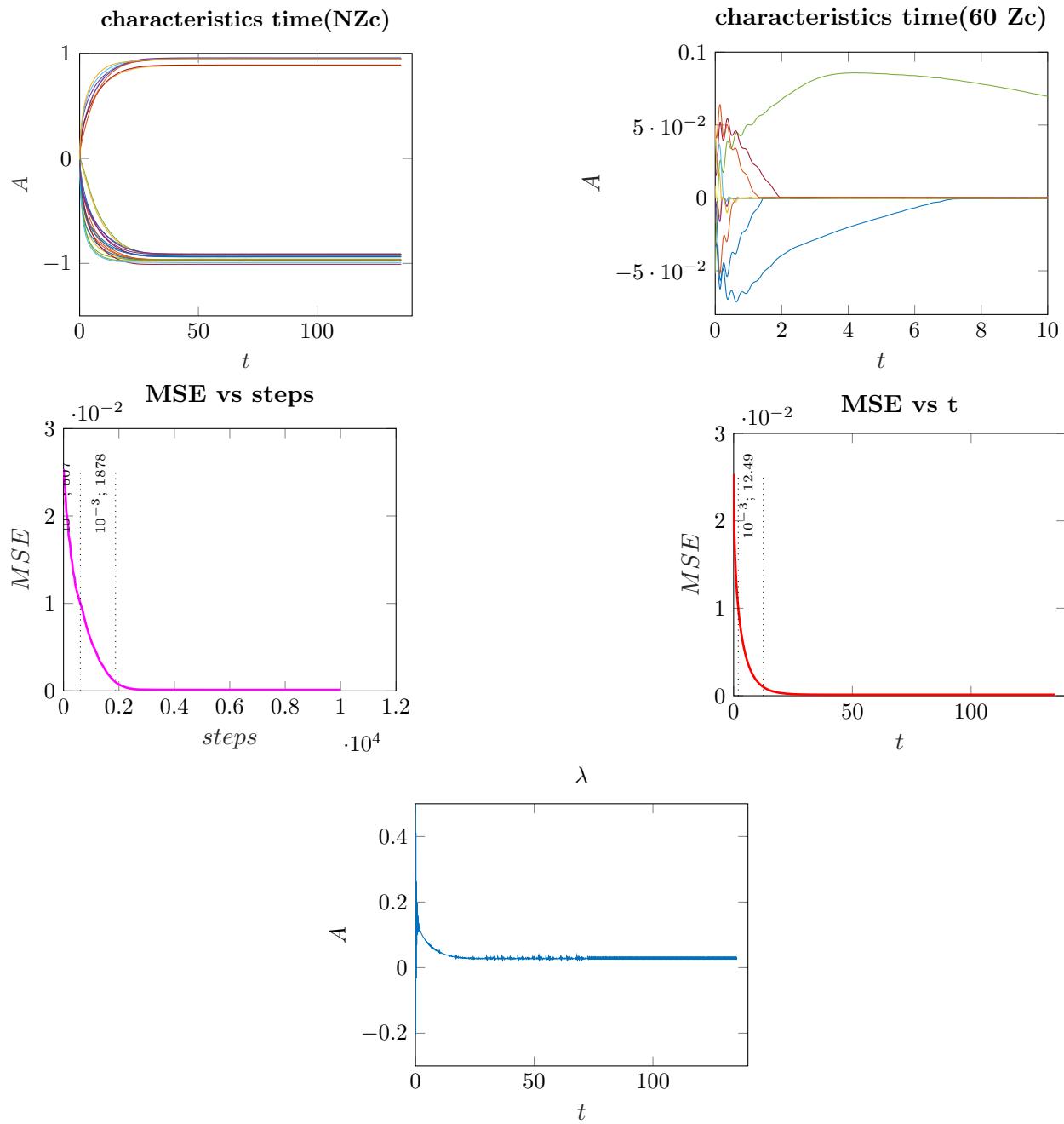
## 2.53 sim 4.203

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
5000	U	$8.1104E - 05$	01 : 50 : 39	150.00	9706	4.203
$A$	$Nz$	$\eta$	$m$	$n$	$\sigma$	
1	25	25	260	1024	0.0200	



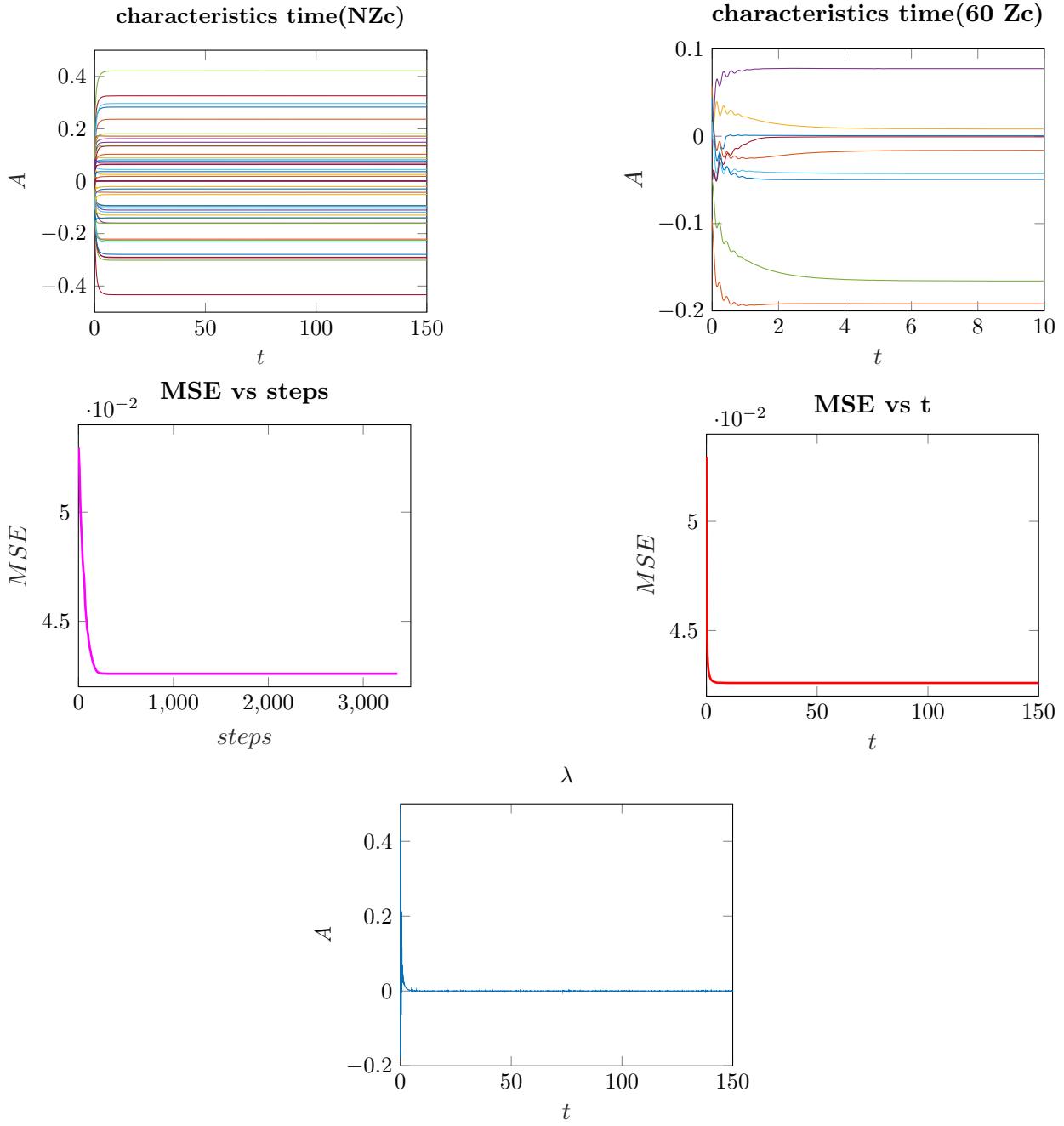
## 2.54 sim 4.204

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
5000	U	$1.2316E - 04$	01 : 52 : 57	135.31	10001	4.204
$A$	$Nz$	$\eta$	$m$	$n$	$\sigma$	
1	25	25	280	1024	0.0200	



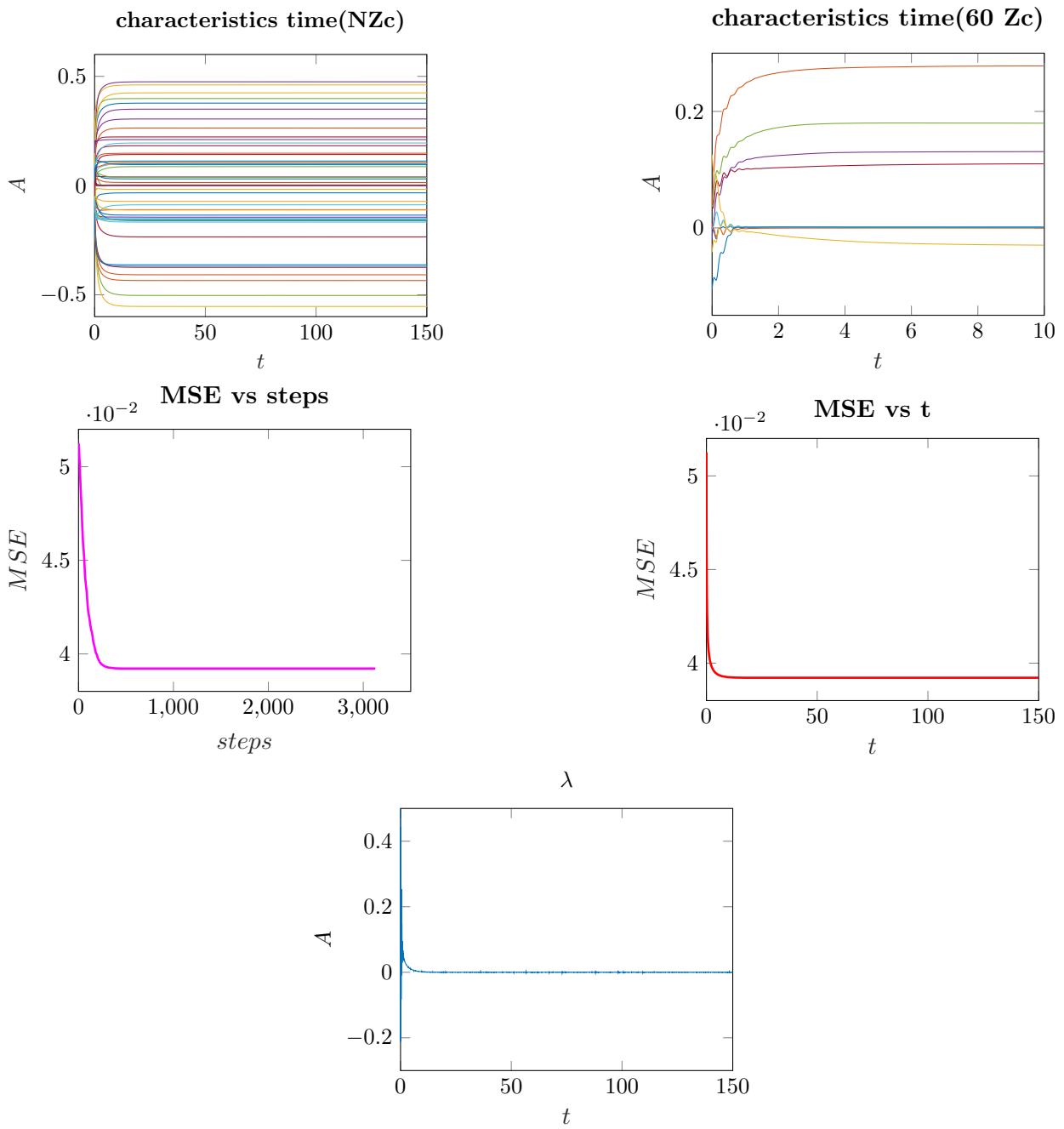
## 2.55 sim 4.26

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
1000	U	4.2603E - 02	00 : 40 : 16	150.00	3360	4.26
				$A$	$Nz$	$\eta$
				1	50	50
					$m$	$n$
					120	1024
					$\sigma$	
						0.0020



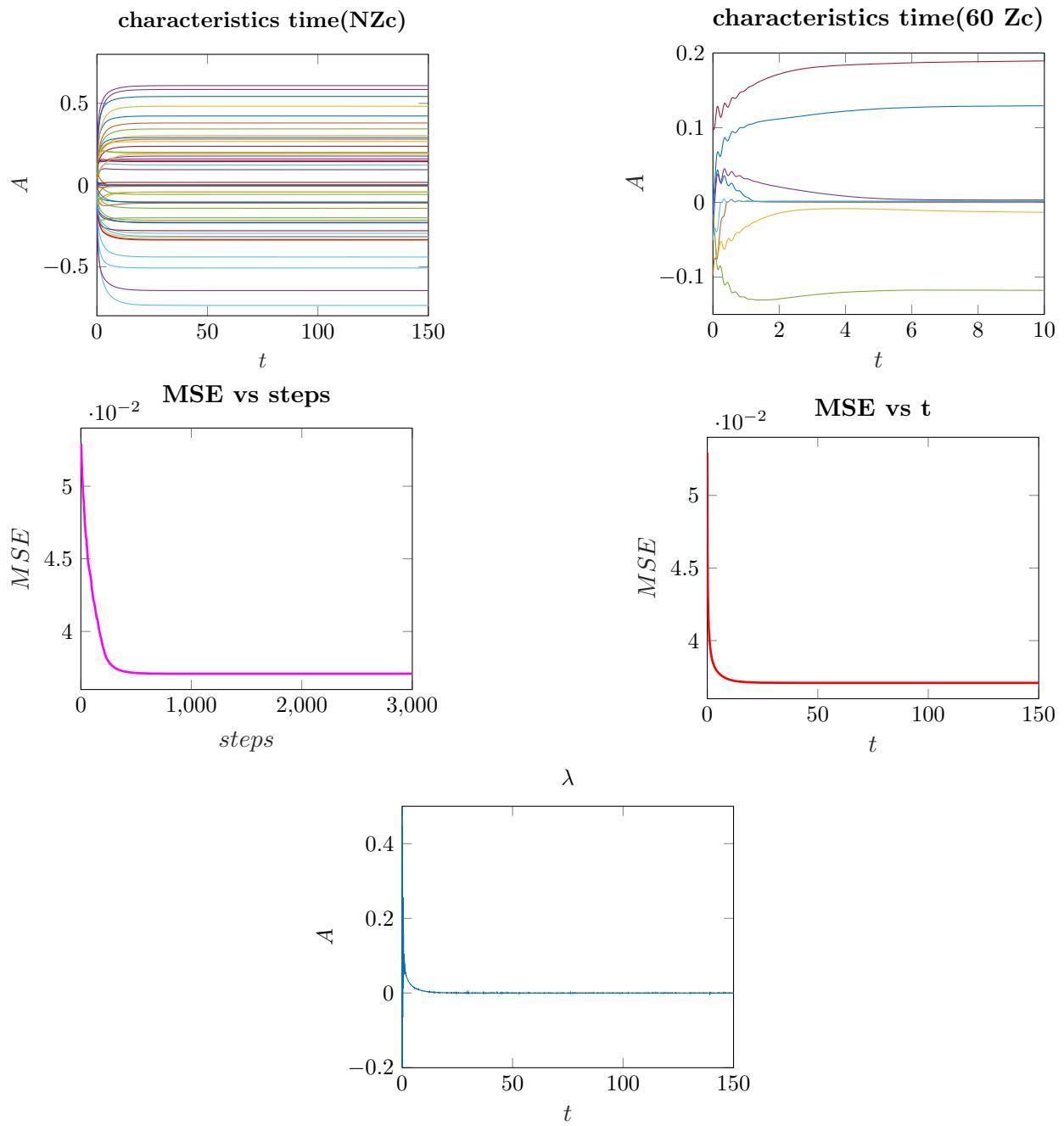
## 2.56 sim 4.27

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
1000	U	$3.9219E - 02$	00 : 37 : 26	150.00	3127	4.27
				$A$	$Nz$	$\eta$
				1	50	50
					140	$m$
					1024	$n$
					0.0020	$\sigma$



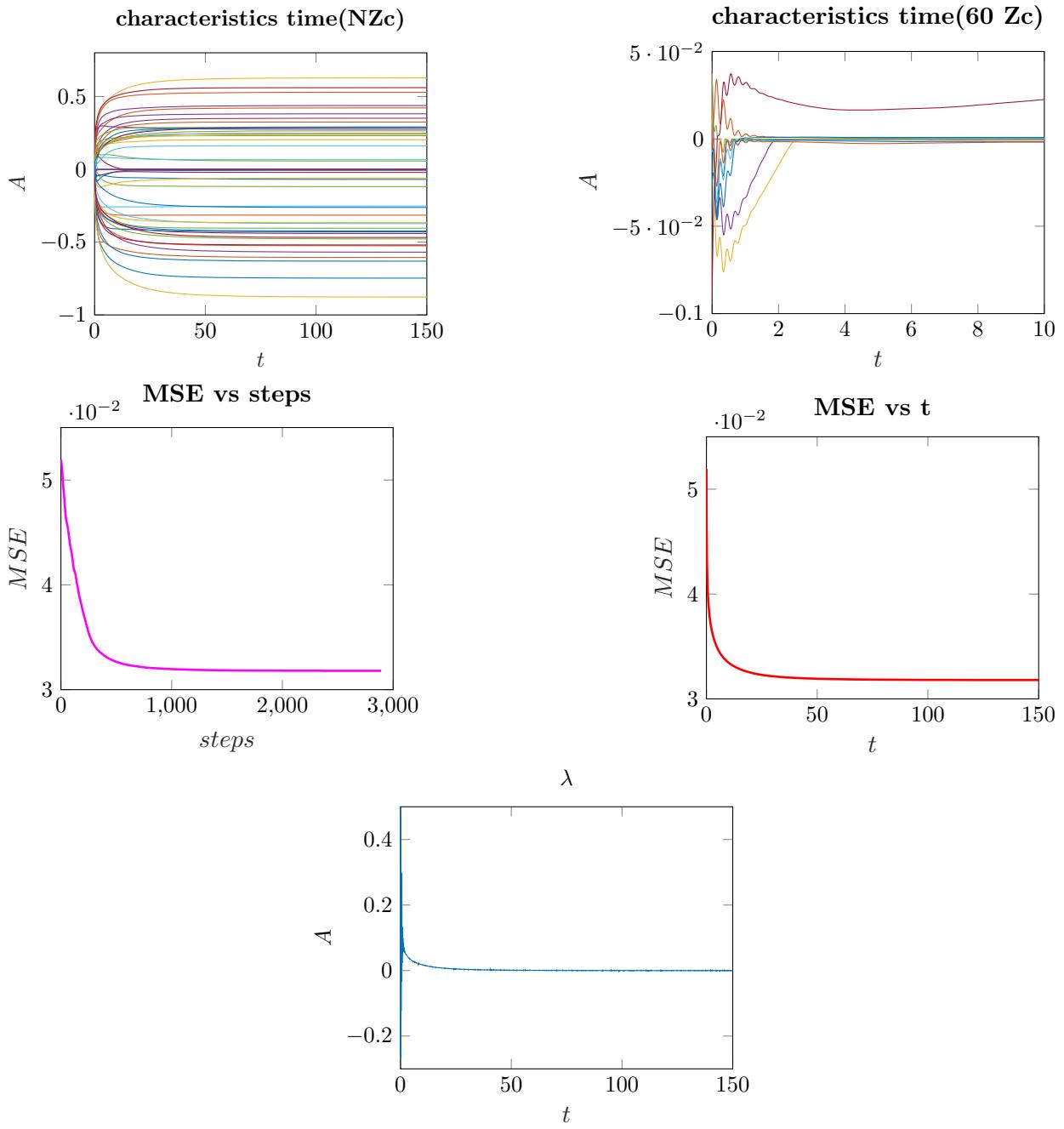
## 2.57 sim 4.28

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id			
1000	U	$3.7093E - 02$	00 : 36 : 00	150.00	2996	4.28			
				$A$	$Nz$	$\eta$	$m$	$n$	$\sigma$
				1	50	50	160	1024	0.0020



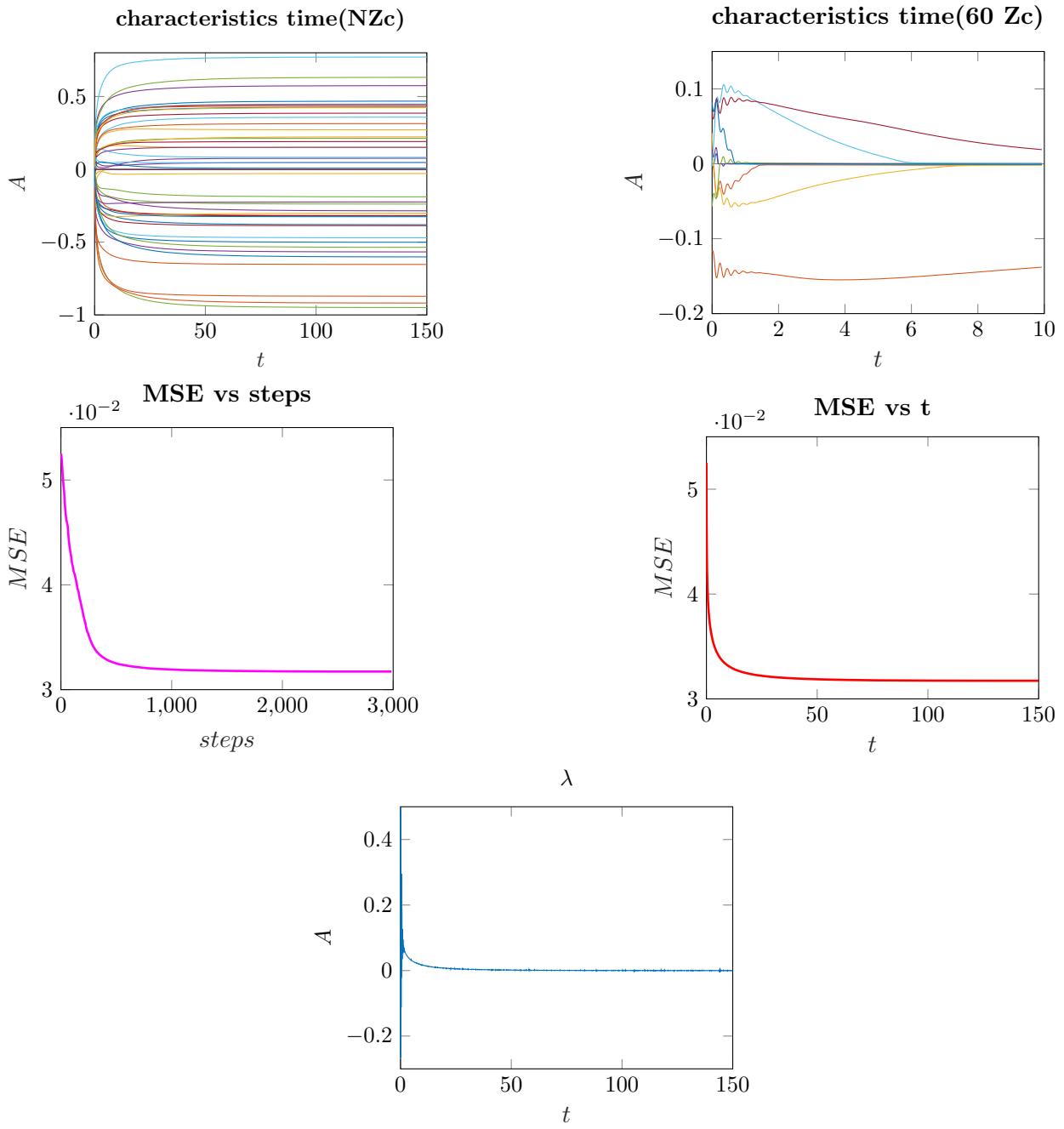
## 2.58 sim 4.29

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
1000	U	$3.1802E - 02$	00 : 34 : 28	150.00	2891	4.29
				$A$	$Nz$	$\eta$
				1	50	50
					$m$	$n$
					180	1024
					$\sigma$	
						0.0020



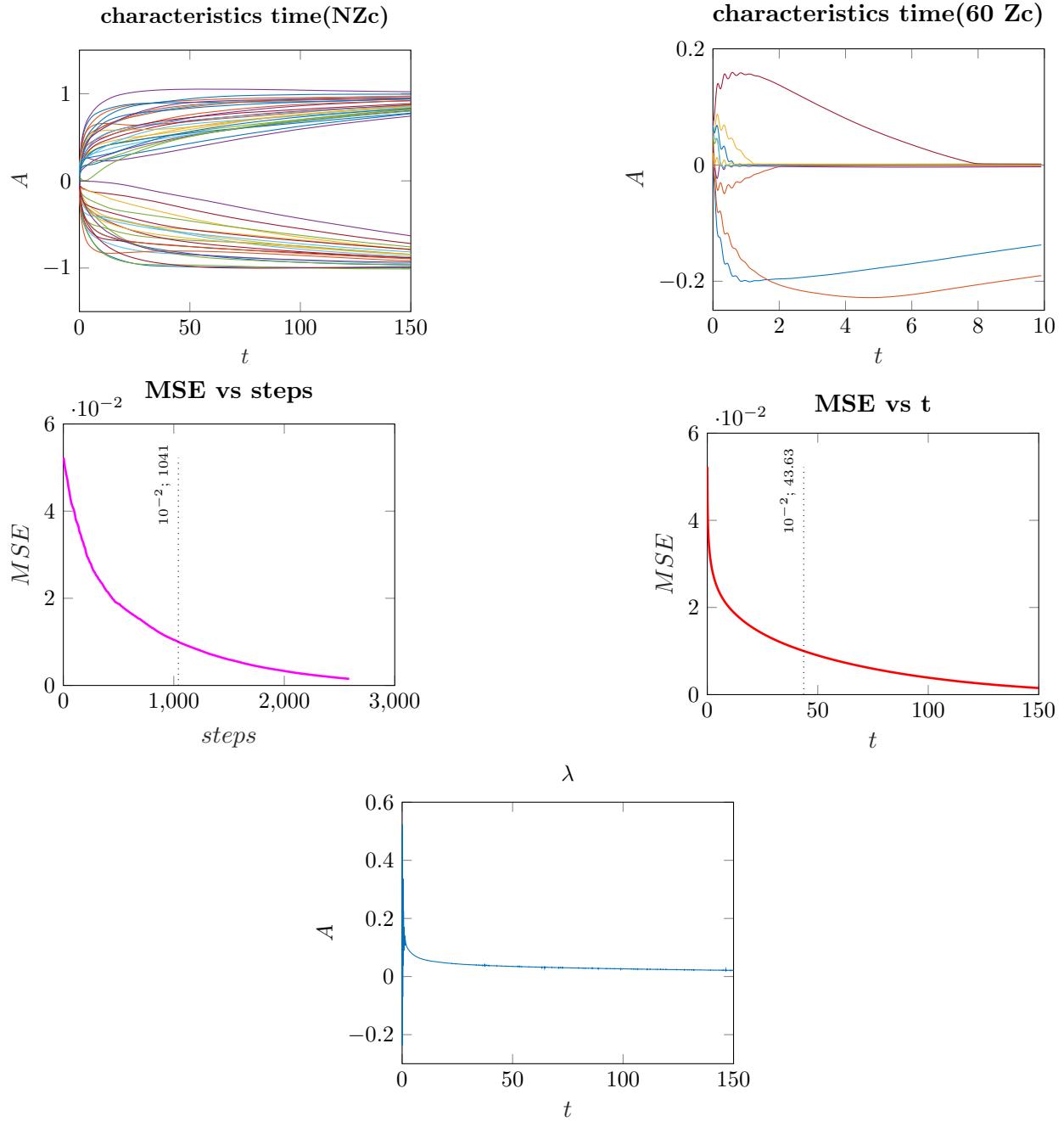
## 2.59 sim 4.30

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id			
1000	U	3.1726E - 02	00 : 35 : 51	150.00	2985	4.30			
				$A$	$Nz$	$\eta$	$m$	$n$	$\sigma$
				1	50	50	200	1024	0.0020



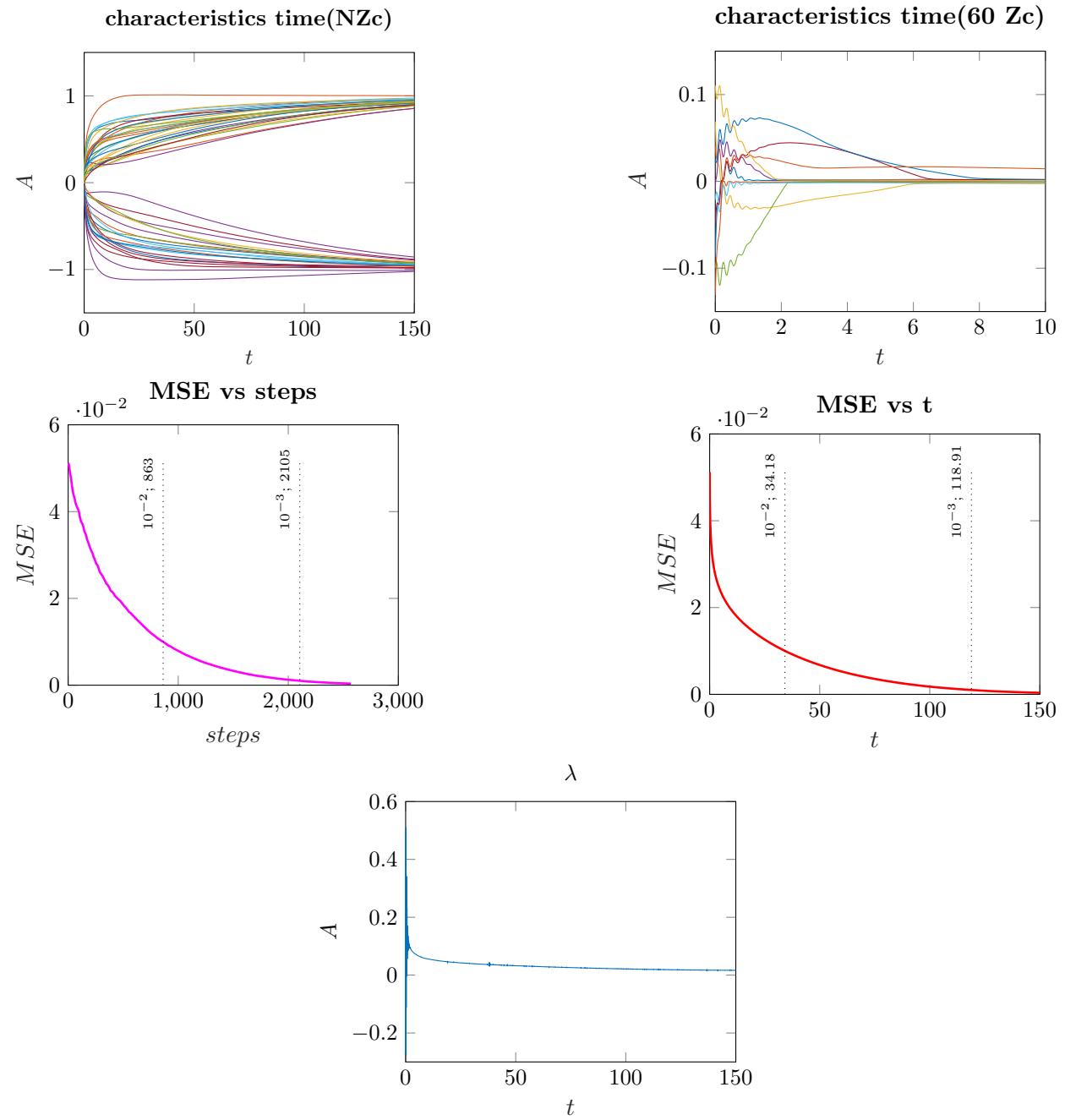
## 2.60 sim 4.39

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id			
1000	U	1.5147E - 03	00 : 30 : 57	150.00	2588	4.39			
				$A$	$Nz$	$\eta$	$m$	$n$	$\sigma$
				1	50	50	220	1024	0.0020



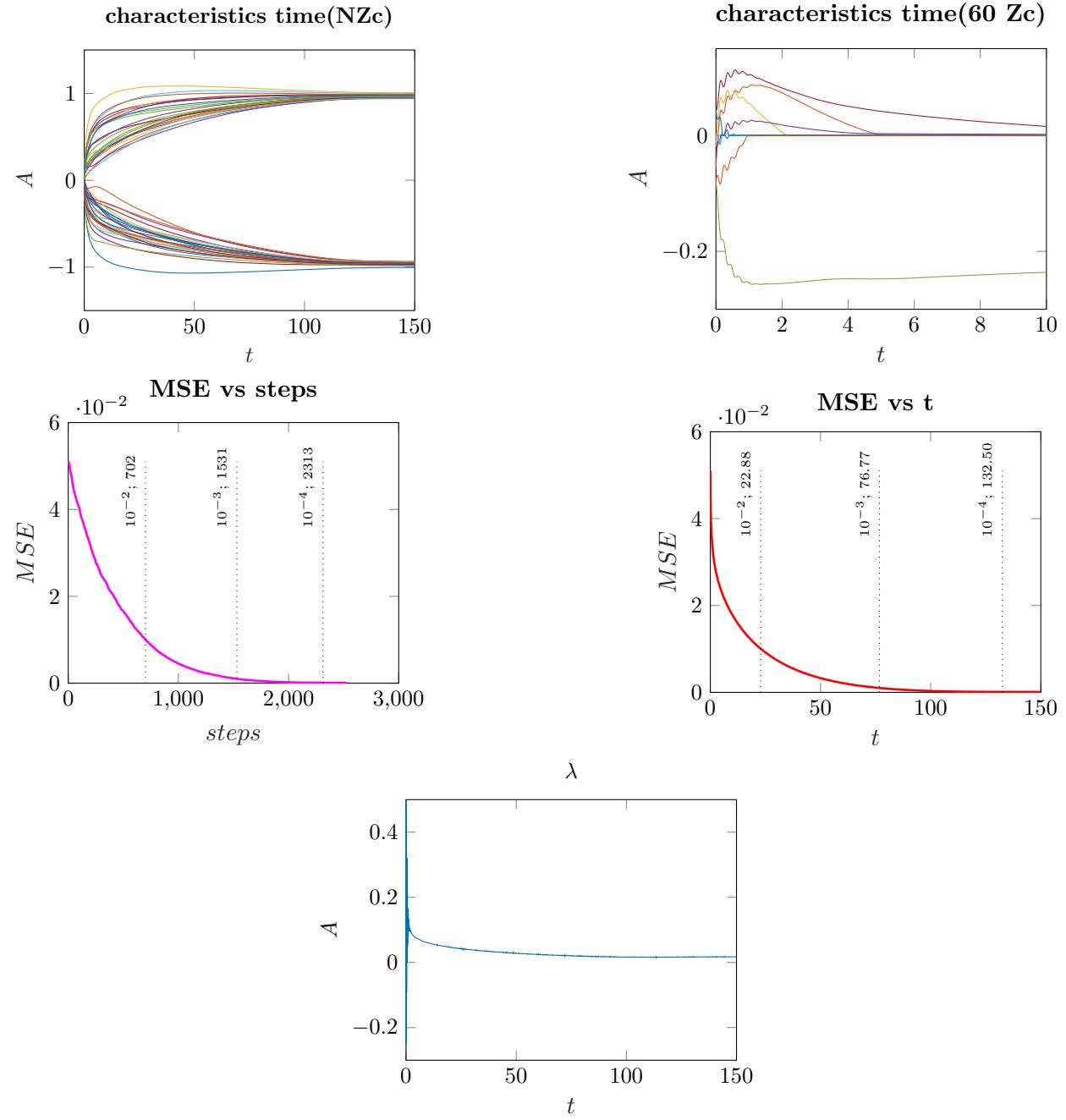
## 2.61 sim 4.40

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
1000	U	$3.5885E - 04$	00 : 31 : 12	150.00	2568	4.40
				$A$	$Nz$	$\eta$
				1	50	50
					$m$	$n$
					240	1024
					$\sigma$	
						0.0020



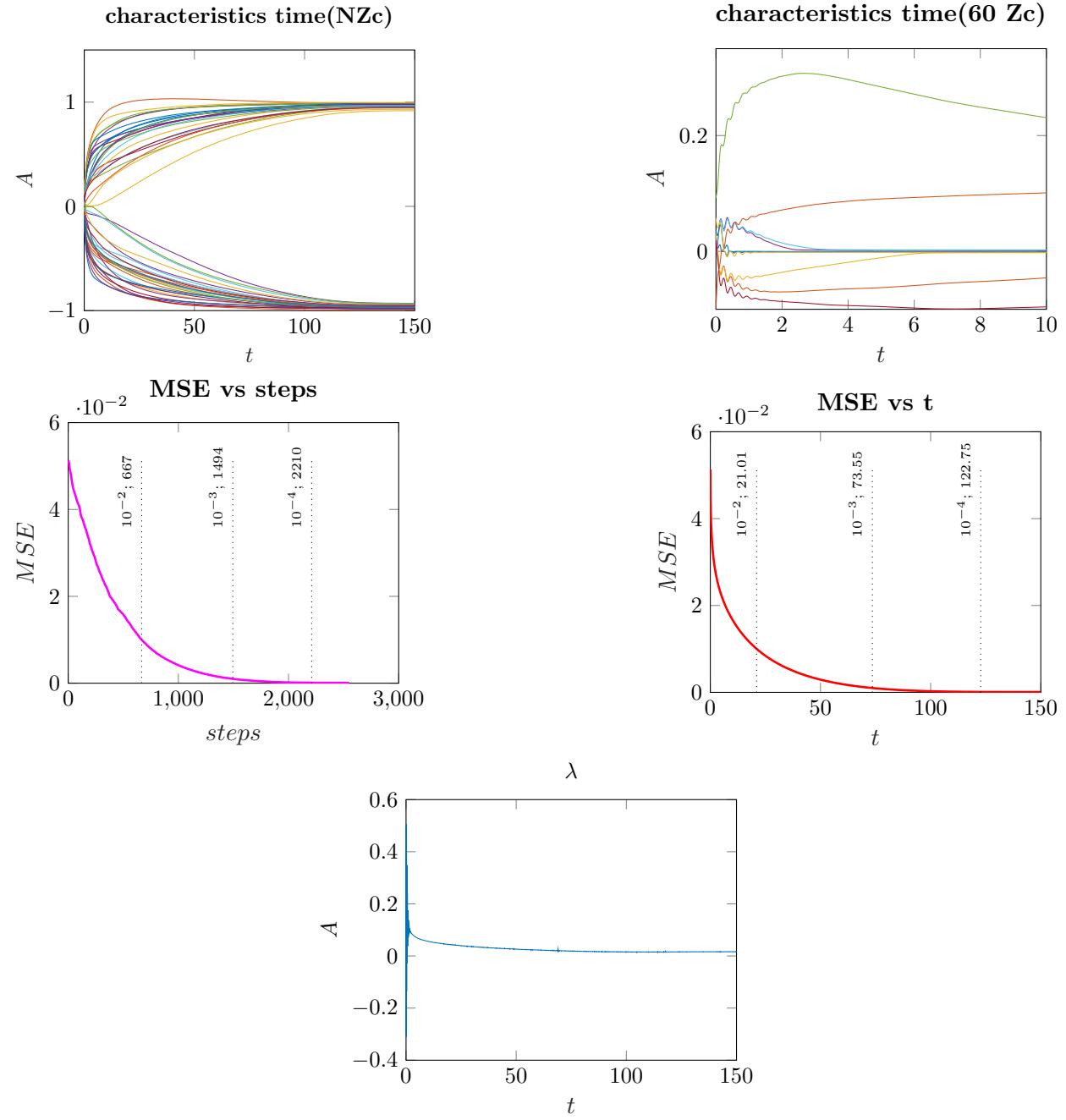
## 2.62 sim 4.41

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
1000	U	9.1813E - 05	00 : 30 : 23	150.00	2528	4.41
$A$	$Nz$	$\eta$	$m$	$n$	$\sigma$	
1	50	50	260	1024	0.0020	



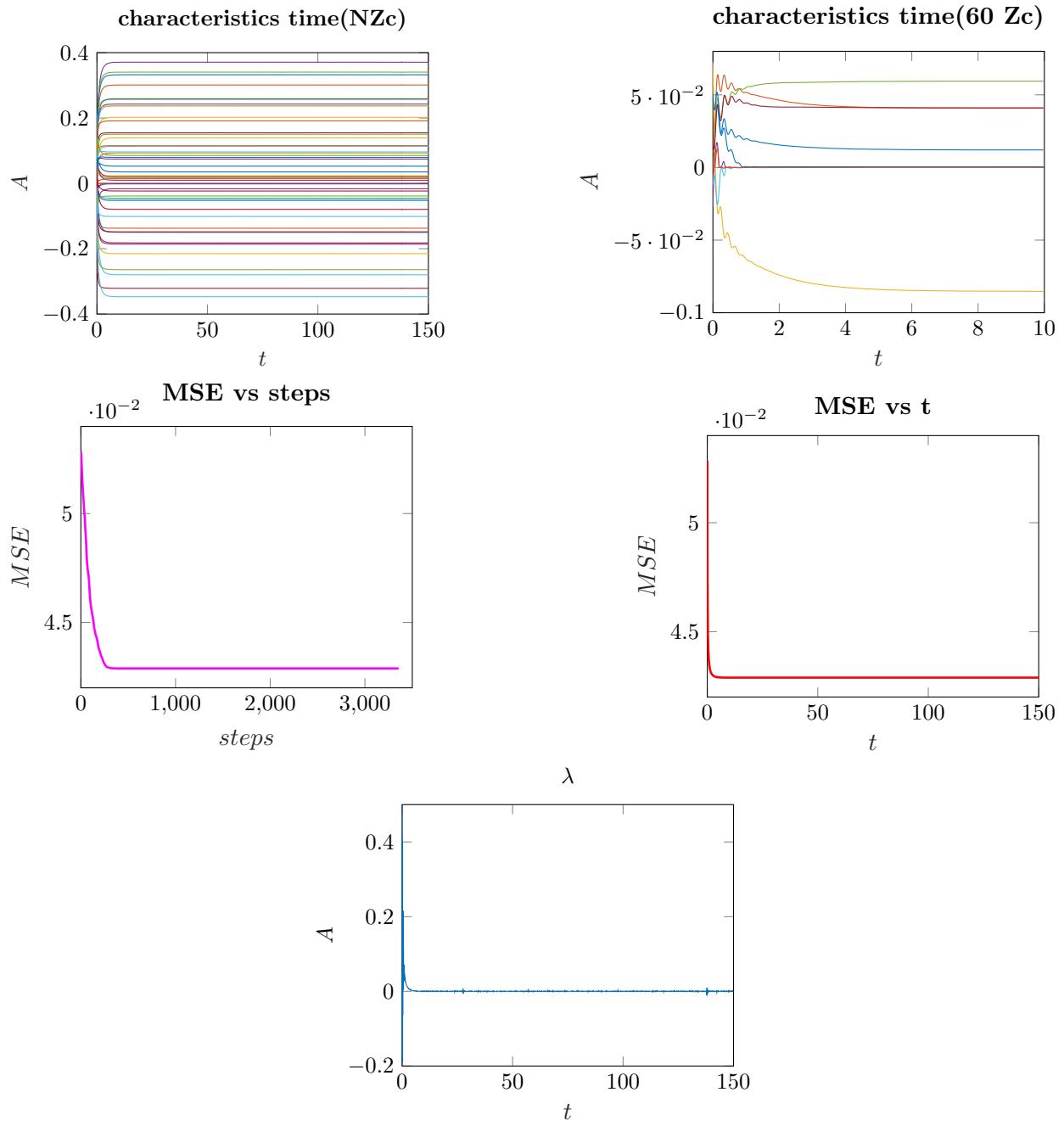
## 2.63 sim 4.42

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
1000	U	$8.3143E - 05$	00 : 30 : 44	150.00	2550	4.42
				$A$	$Nz$	$\eta$
				1	50	50
					280	$m$
					1024	$n$
					0.0020	$\sigma$



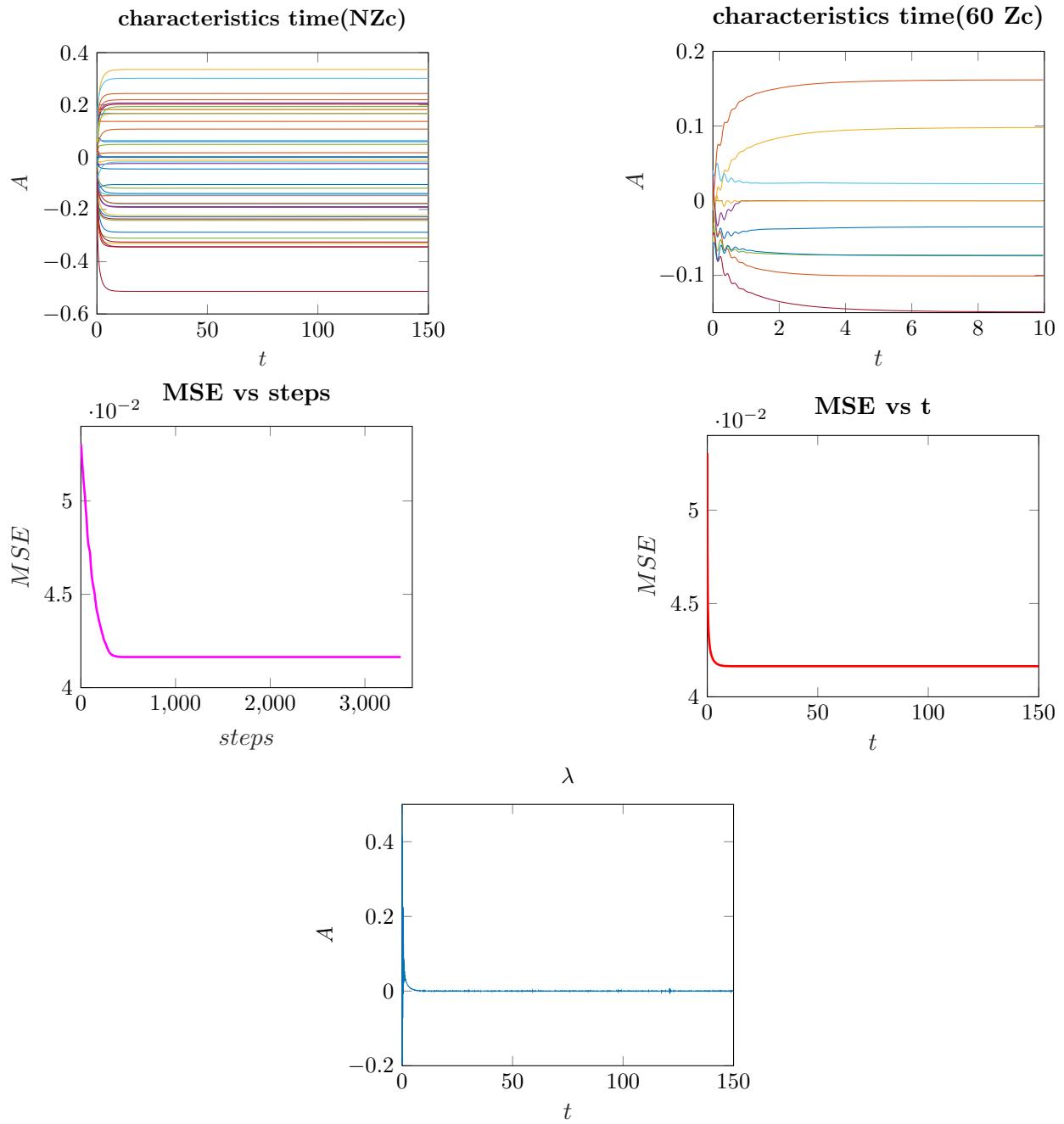
## 2.64 sim 4.138

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id			
2500	U	$4.2891E - 02$	00 : 40 : 20	150.00	3356	4.138			
				$A$	$Nz$	$\eta$	$m$	$n$	$\sigma$
				1	50	50	120	1024	0.0020



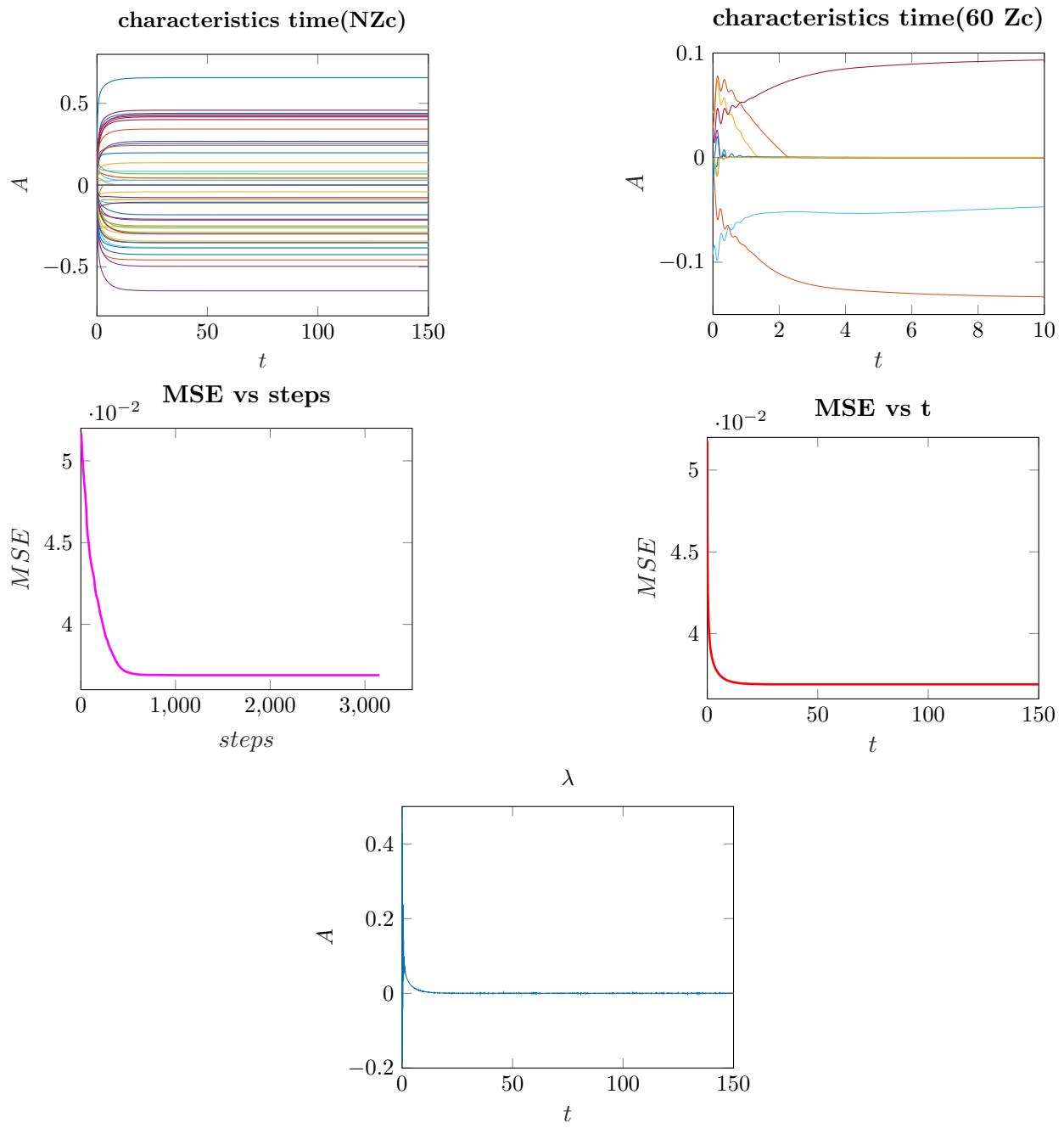
## 2.65 sim 4.139

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id			
2500	U	$4.1636E - 02$	00 : 40 : 17	150.00	3378	4.139			
				$A$	$Nz$	$\eta$	$m$	$n$	$\sigma$
				1	50	50	140	1024	0.0020



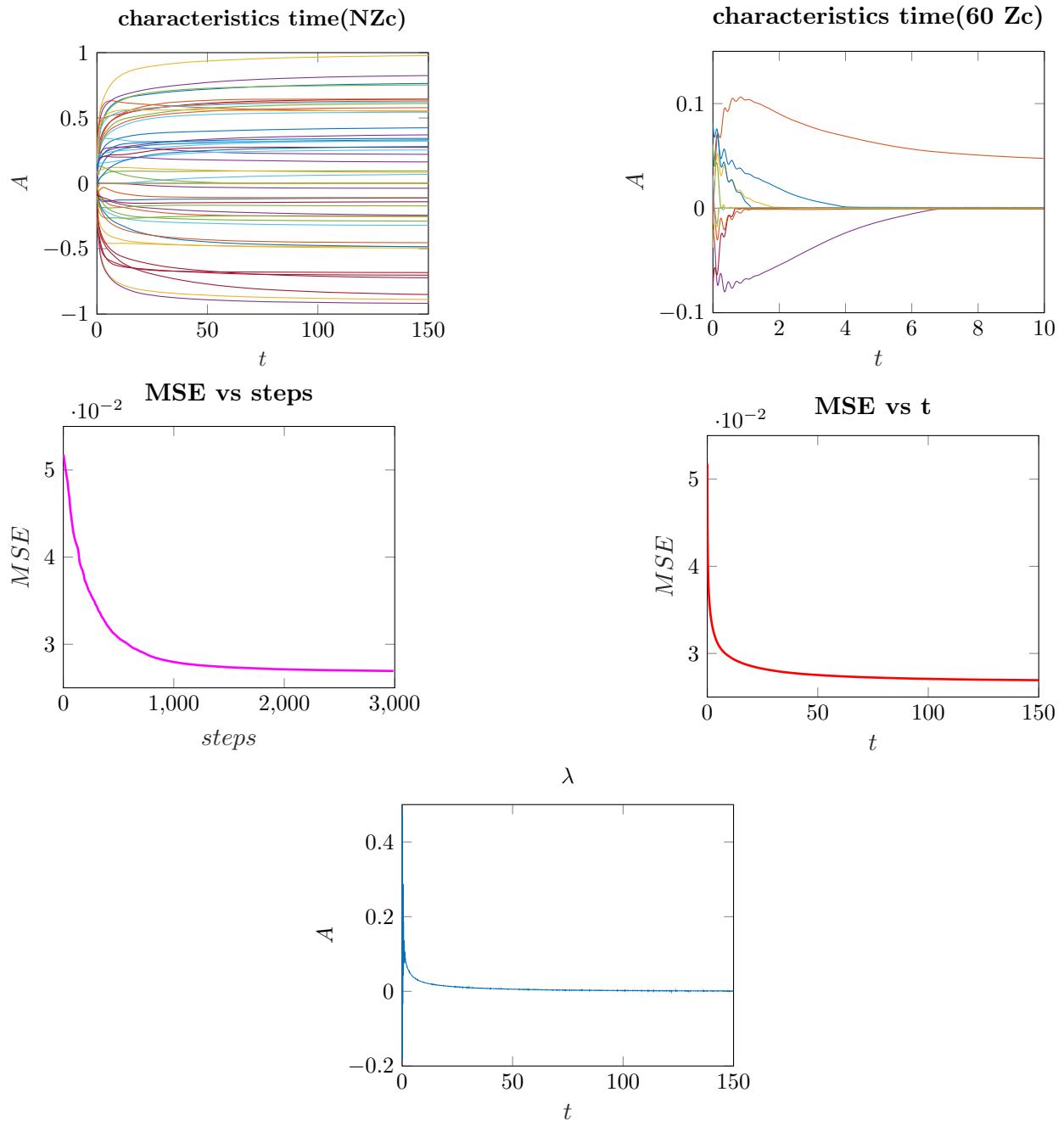
## 2.66 sim 4.140

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id			
2500	U	$3.6892E - 02$	00 : 37 : 42	150.00	3154	4.140			
				$A$	$Nz$	$\eta$	$m$	$n$	$\sigma$
				1	50	50	160	1024	0.0020



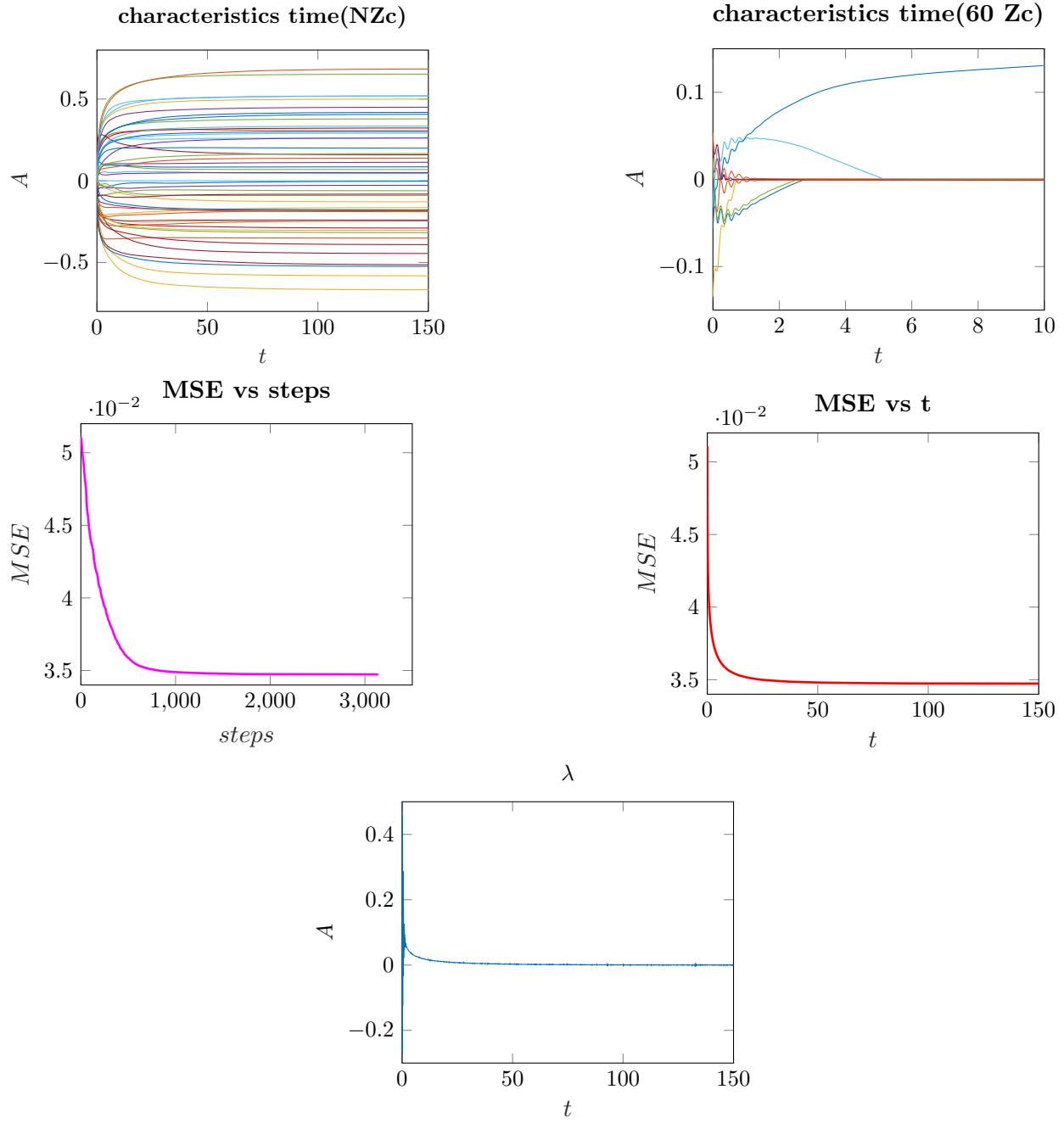
## 2.67 sim 4.141

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id			
2500	U	$2.6933E - 02$	00 : 35 : 32	150.00	2989	4.141			
				$A$	$Nz$	$\eta$	$m$	$n$	$\sigma$
				1	50	50	180	1024	0.0020



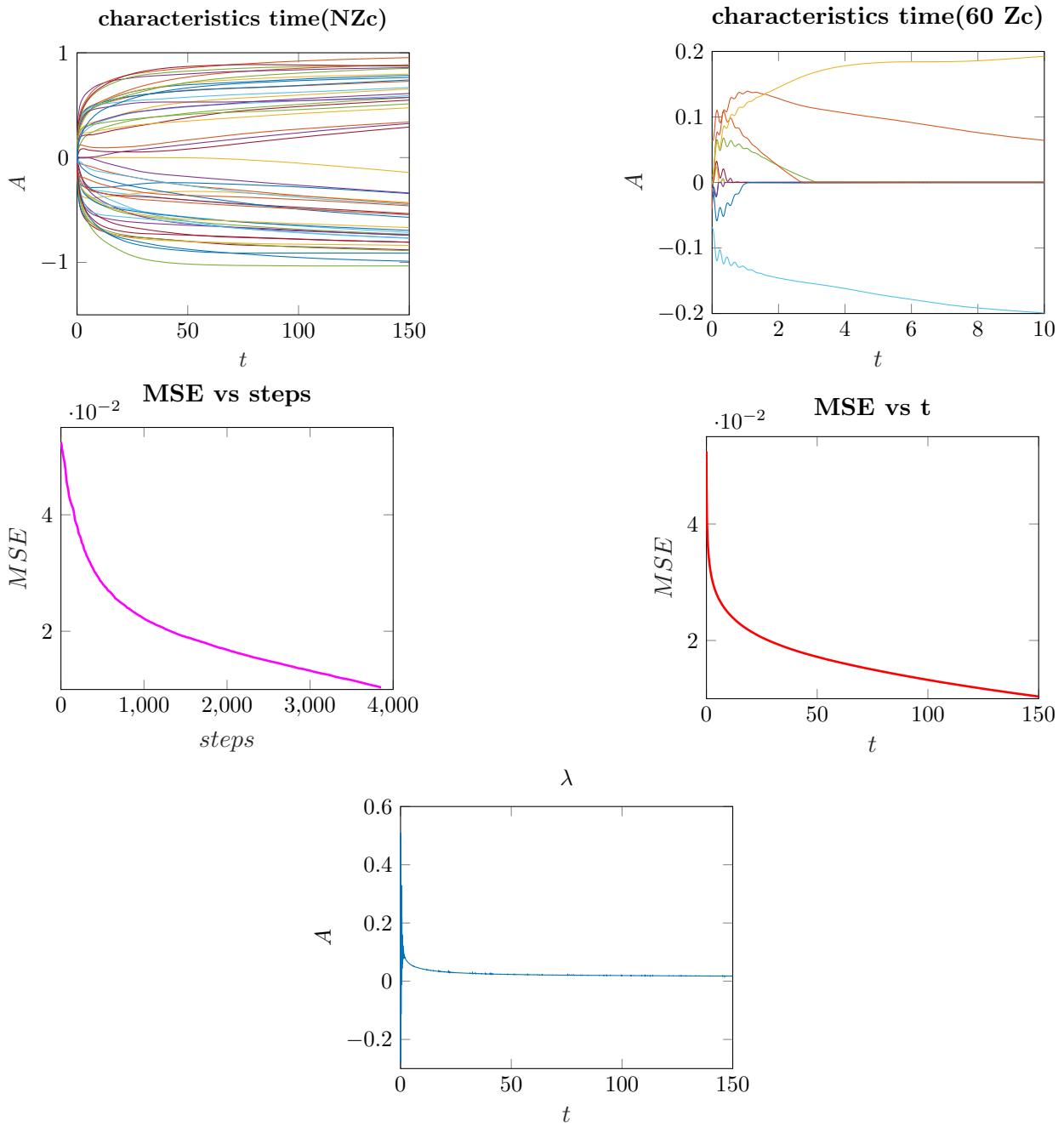
## 2.68 sim 4.142

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id			
2500	U	$3.4735E - 02$	00 : 37 : 05	150.00	3141	4.142			
				$A$	$Nz$	$\eta$	$m$	$n$	$\sigma$
				1	50	50	200	1024	0.0020



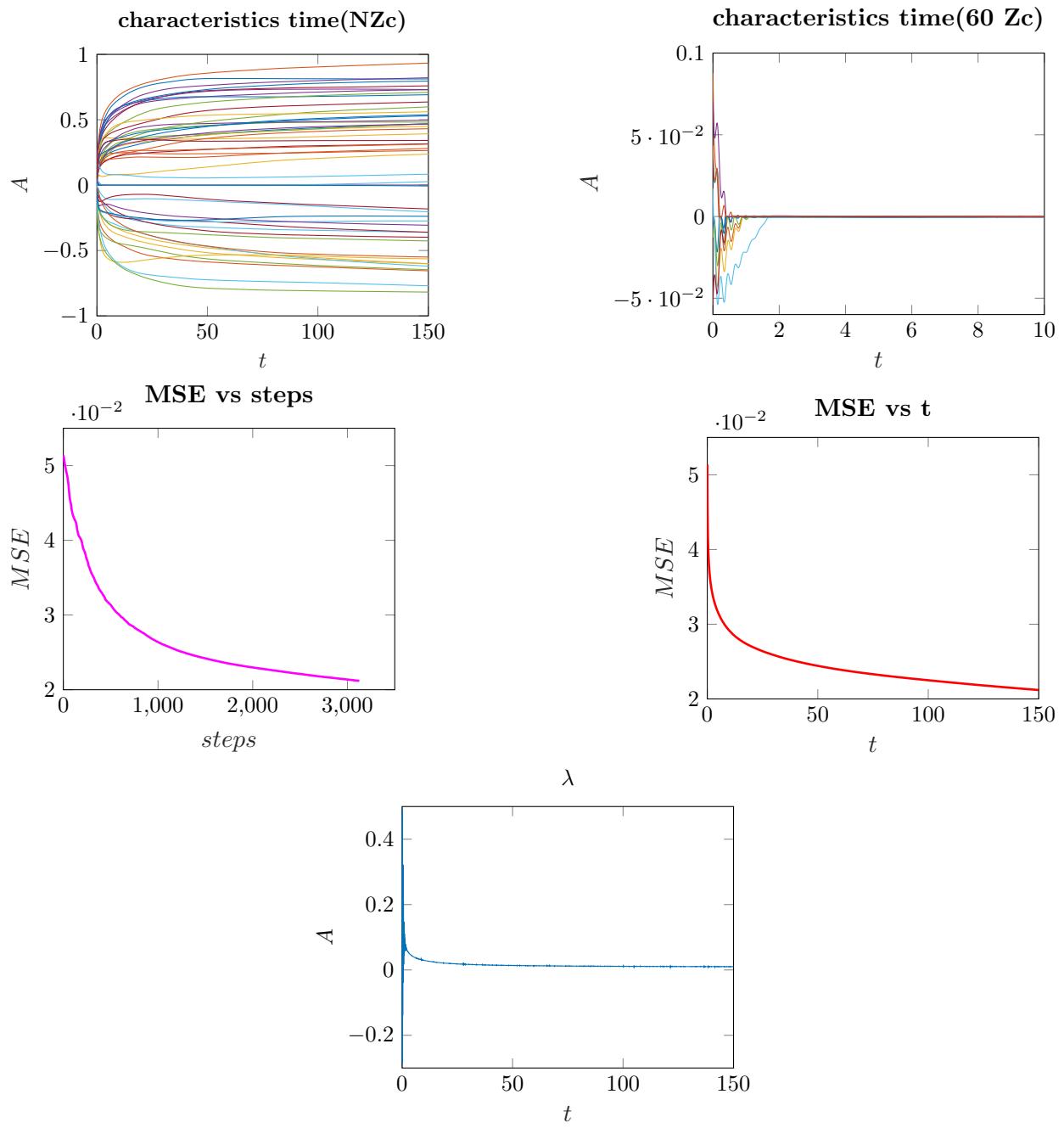
## 2.69 sim 4.14

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
2500	U	1.0371E - 02	00 : 45 : 04	150.00	3855	4.14
				$A$	$Nz$	$\eta$
				1	50	50
					$m$	$n$
					220	1024
					$\sigma$	
						0.0020



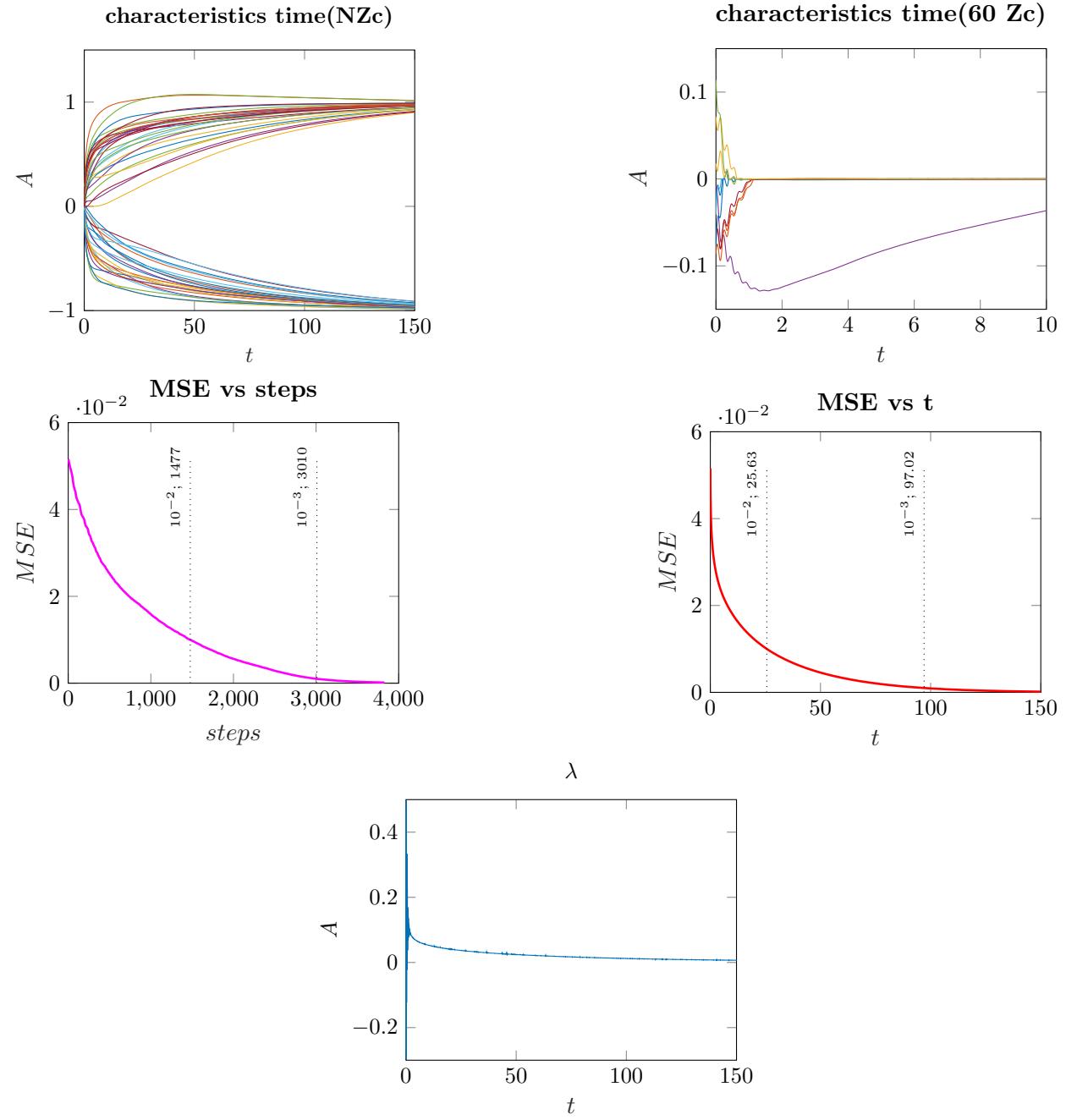
## 2.70 sim 4.15

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
2500	U	$2.1189E - 02$	00 : 37 : 25	150.00	3126	4.15
				$A$	$Nz$	$\eta$
				1	50	50
					$m$	$n$
					240	1024
					$\sigma$	
						0.0020



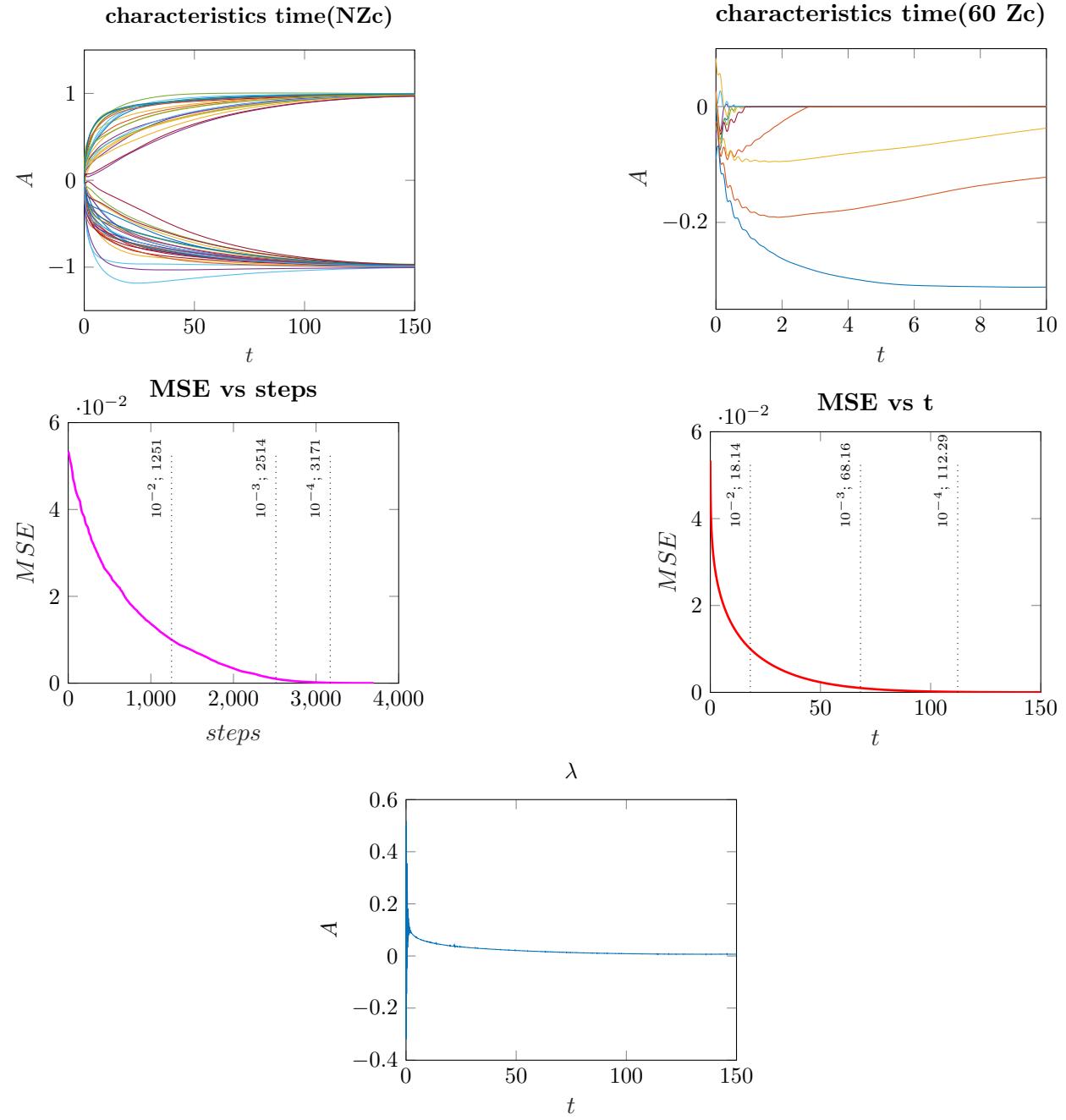
## 2.71 sim 4.16

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
2500	U	$1.4685E - 04$	00 : 45 : 15	150.00	3828	4.16
				$A$	$Nz$	$\eta$
				1	50	50
					260	$m$
					1024	$n$
					0.0020	$\sigma$



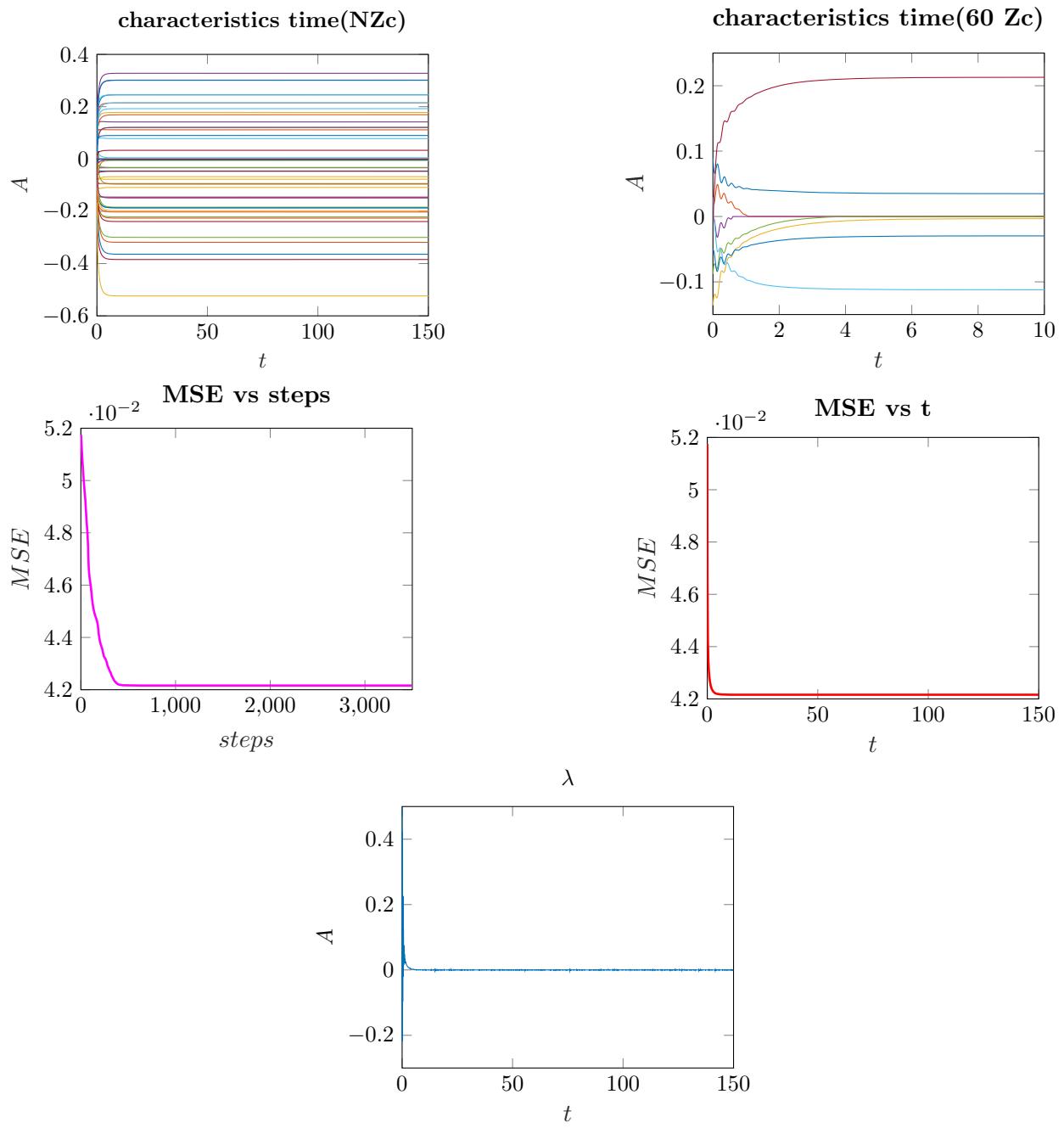
## 2.72 sim 4.17

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
2500	U	$1.7445E - 05$	00 : 43 : 32	150.00	3697	4.17
				$A$	$Nz$	$\eta$
				1	50	50
					280	$m$
					1024	$n$
					0.0020	$\sigma$



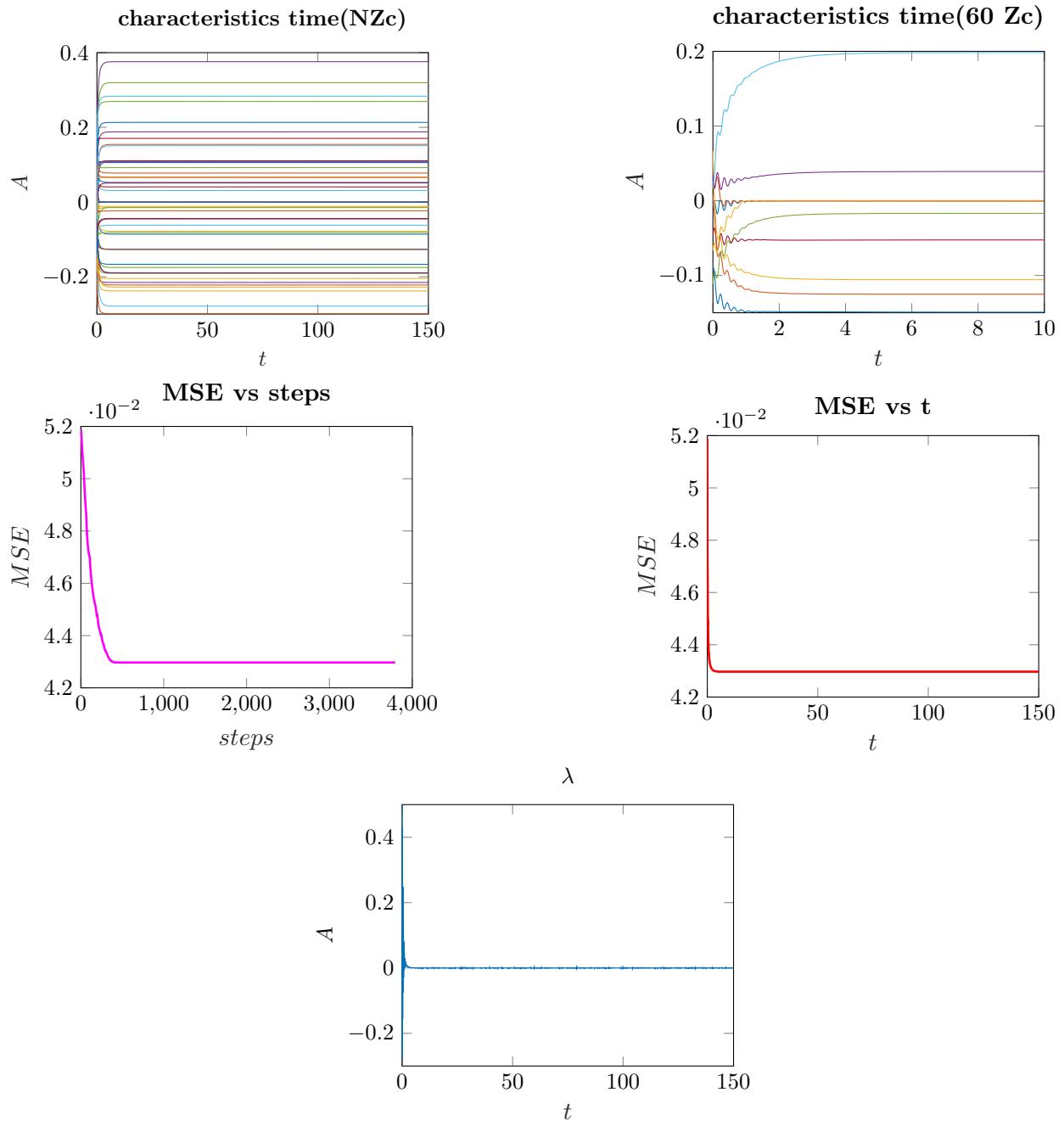
## 2.73 sim 4.113

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
5000	U	$4.2159E - 02$	00 : 41 : 48	150.00	3491	4.113
$A$	$Nz$	$\eta$	$m$	$n$	$\sigma$	
1	50	50	120	1024	0.0020	



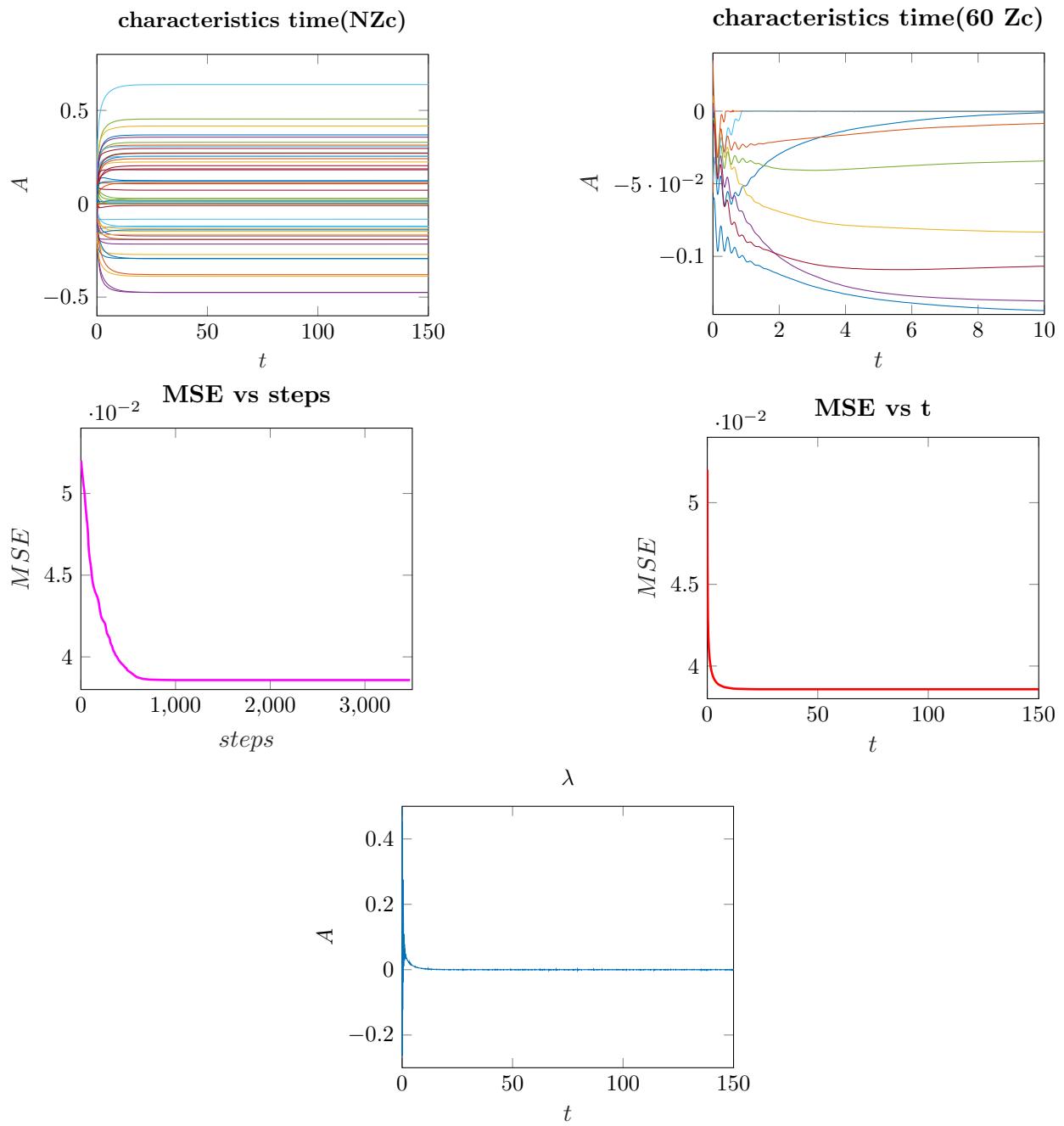
## 2.74 sim 4.114

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
5000	U	$4.2966E - 02$	00 : 45 : 45	150.00	3794	4.114
$A$	$Nz$	$\eta$	$m$	$n$	$\sigma$	
1	50	50	140	1024	0.0020	



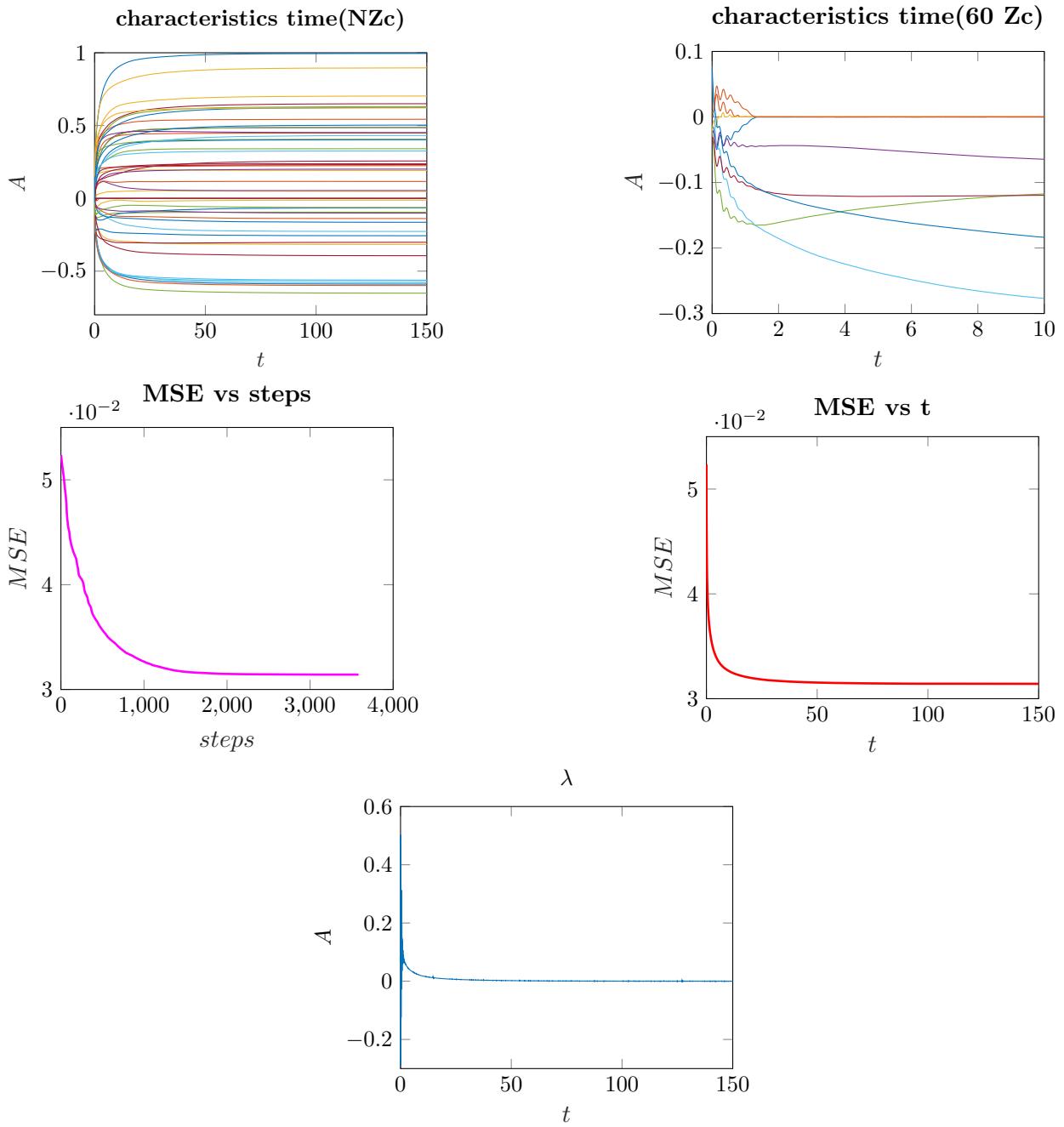
## 2.75 sim 4.115

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
5000	U	$3.8581E - 02$	00 : 41 : 54	150.00	3476	4.115
				$A$	$Nz$	$\eta$
				1	50	50
					160	$m$
					1024	$n$
					0.0020	$\sigma$



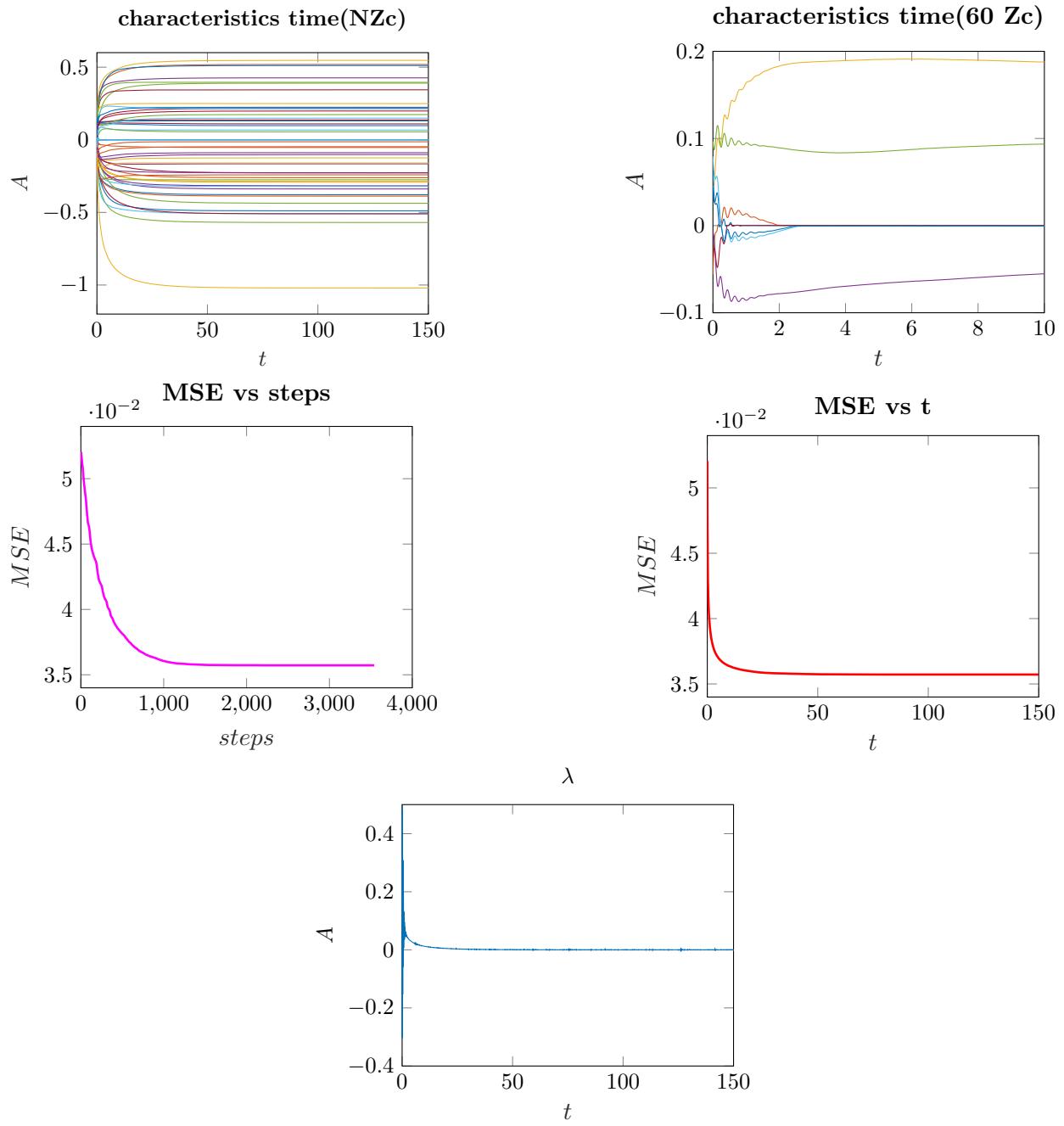
## 2.76 sim 4.116

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id			
5000	U	$3.1417E - 02$	00 : 43 : 02	150.00	3584	4.116			
				$A$	$Nz$	$\eta$	$m$	$n$	$\sigma$
				1	50	50	180	1024	0.0020



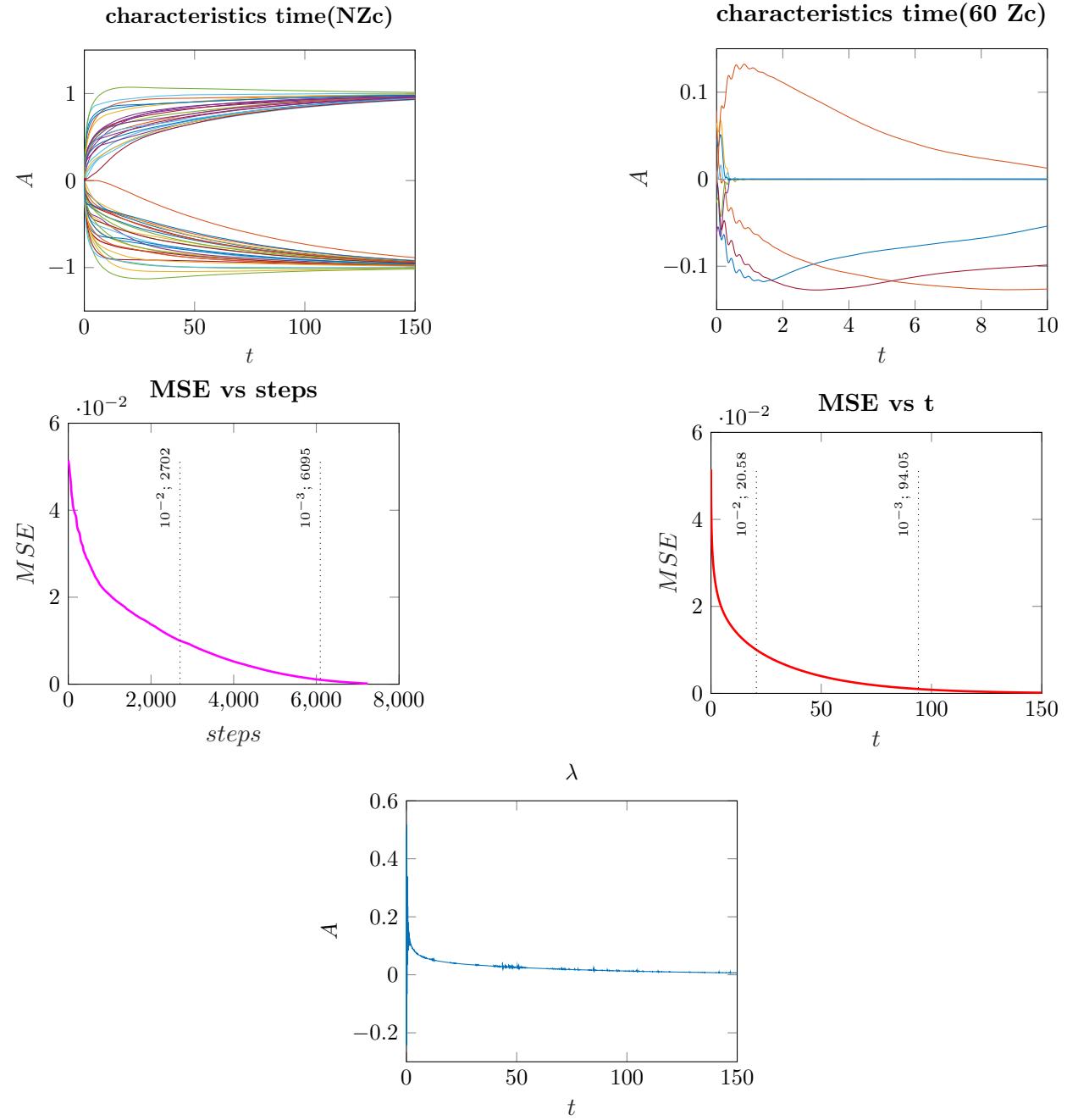
## 2.77 sim 4.117

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id			
5000	U	$3.5722E - 02$	00 : 42 : 57	150.00	3540	4.117			
				$A$	$Nz$	$\eta$	$m$	$n$	$\sigma$
				1	50	50	200	1024	0.0020



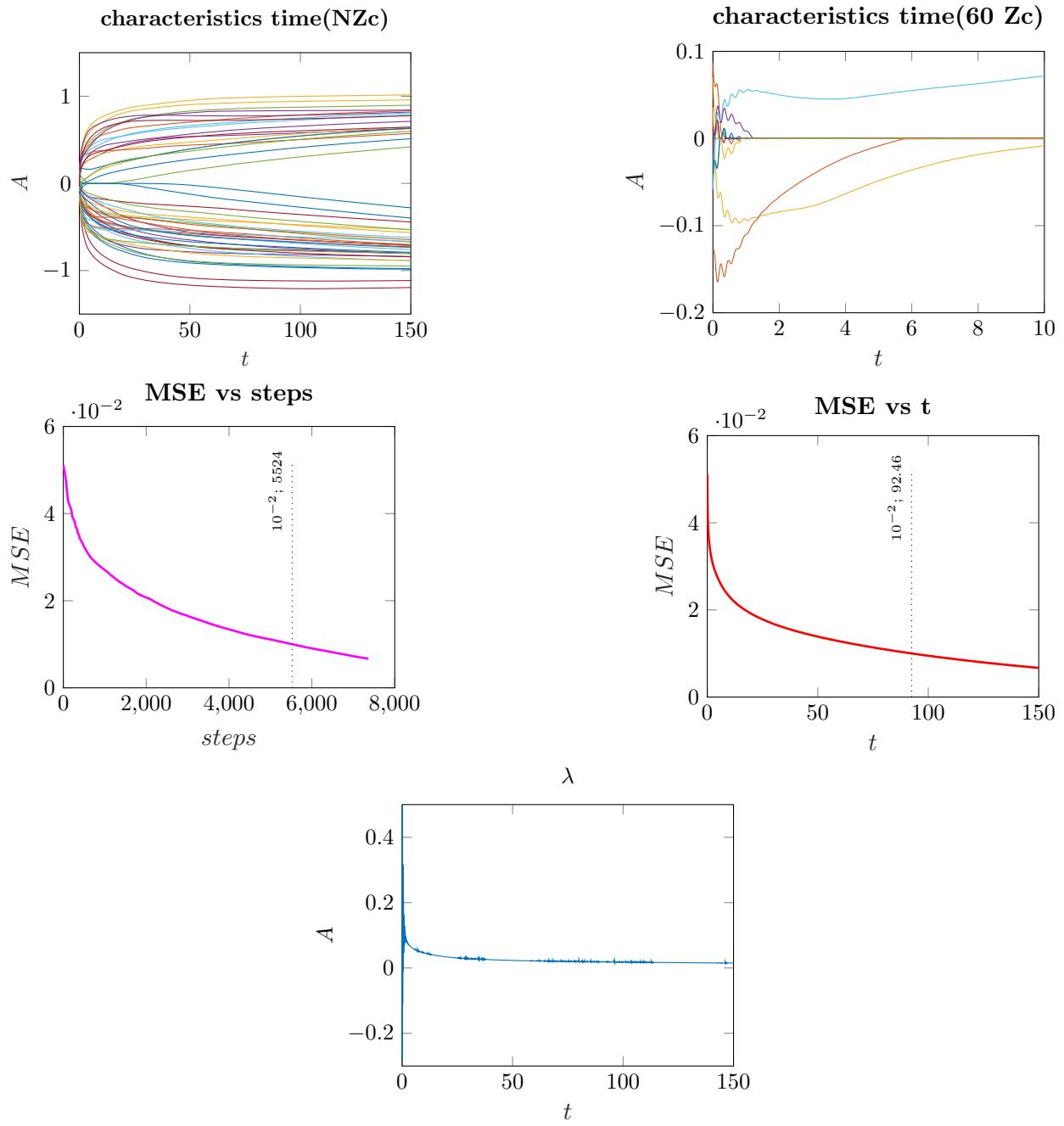
## 2.78 sim 4.126

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
5000	U	$1.4626E - 04$	01 : 24 : 39	150.00	7244	4.126
$A$	$Nz$	$\eta$	$m$	$n$	$\sigma$	
1	50	50	220	1024	0.0020	



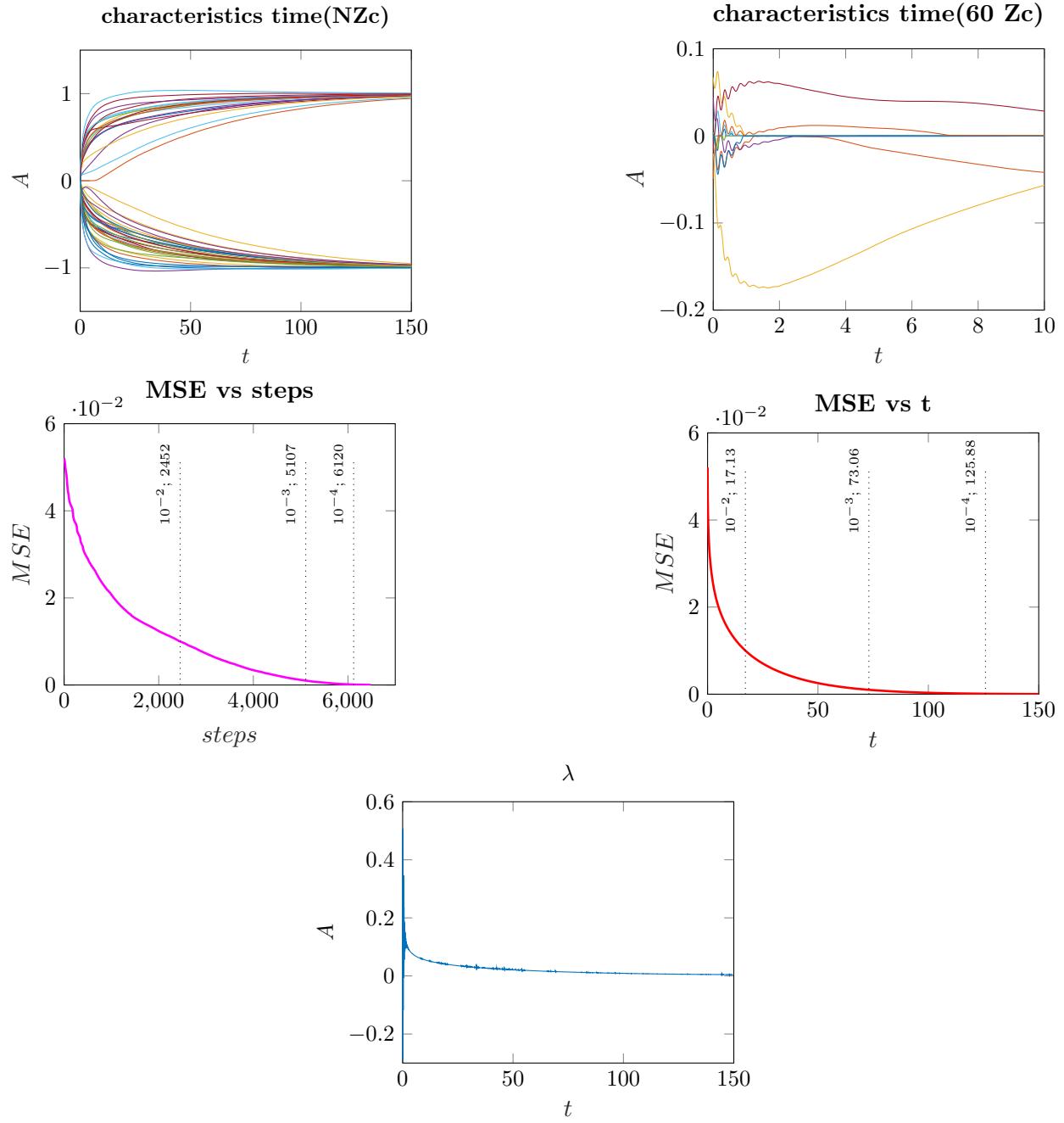
## 2.79 sim 4.127

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
5000	U	$6.6856E - 03$	01 : 25 : 11	150.00	7365	4.127
A	$Nz$	$\eta$	m	n	$\sigma$	
1	50	50	240	1024	0.0020	



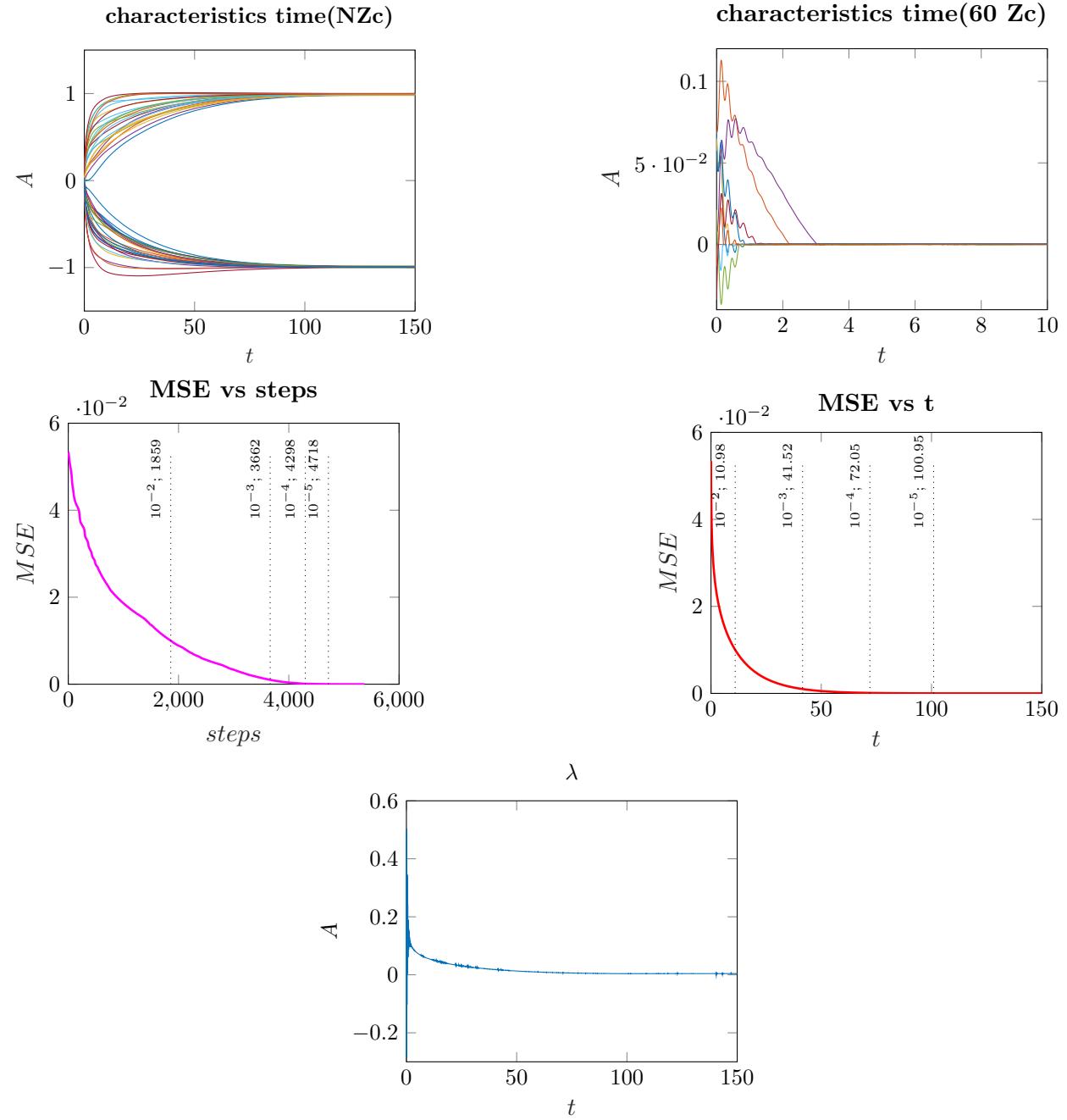
## 2.80 sim 4.128

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
5000	U	$3.0108E - 05$	01 : 15 : 10	150.00	6484	4.128
A	$Nz$	$\eta$	m	n	$\sigma$	
1	50	50	260	1024	0.0020	



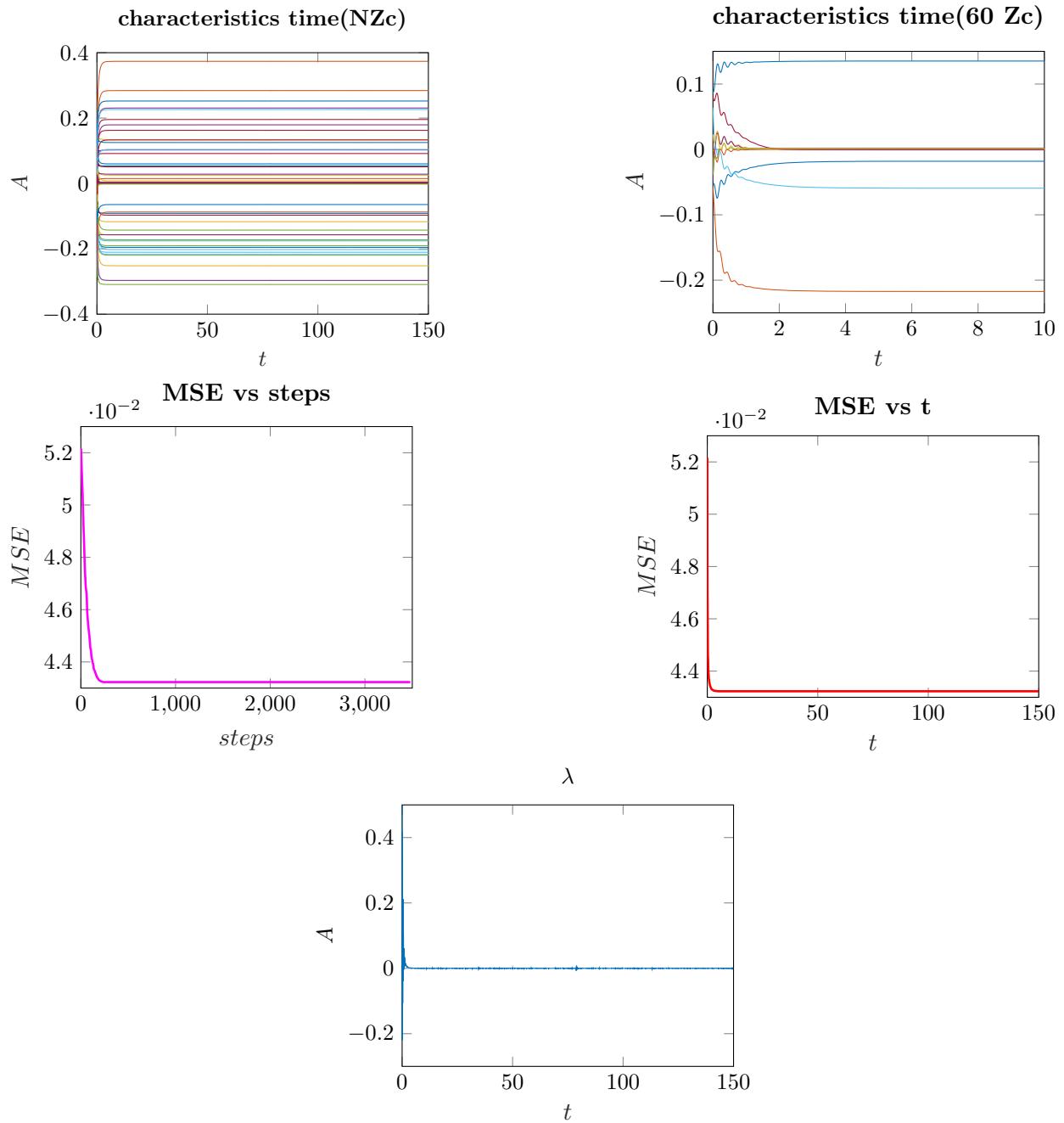
## 2.81 sim 4.129

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
5000	U	$4.7695E - 06$	01 : 03 : 31	150.00	5369	4.129
$A$	$Nz$	$\eta$	$m$	$n$	$\sigma$	
1	50	50	280	1024	0.0020	



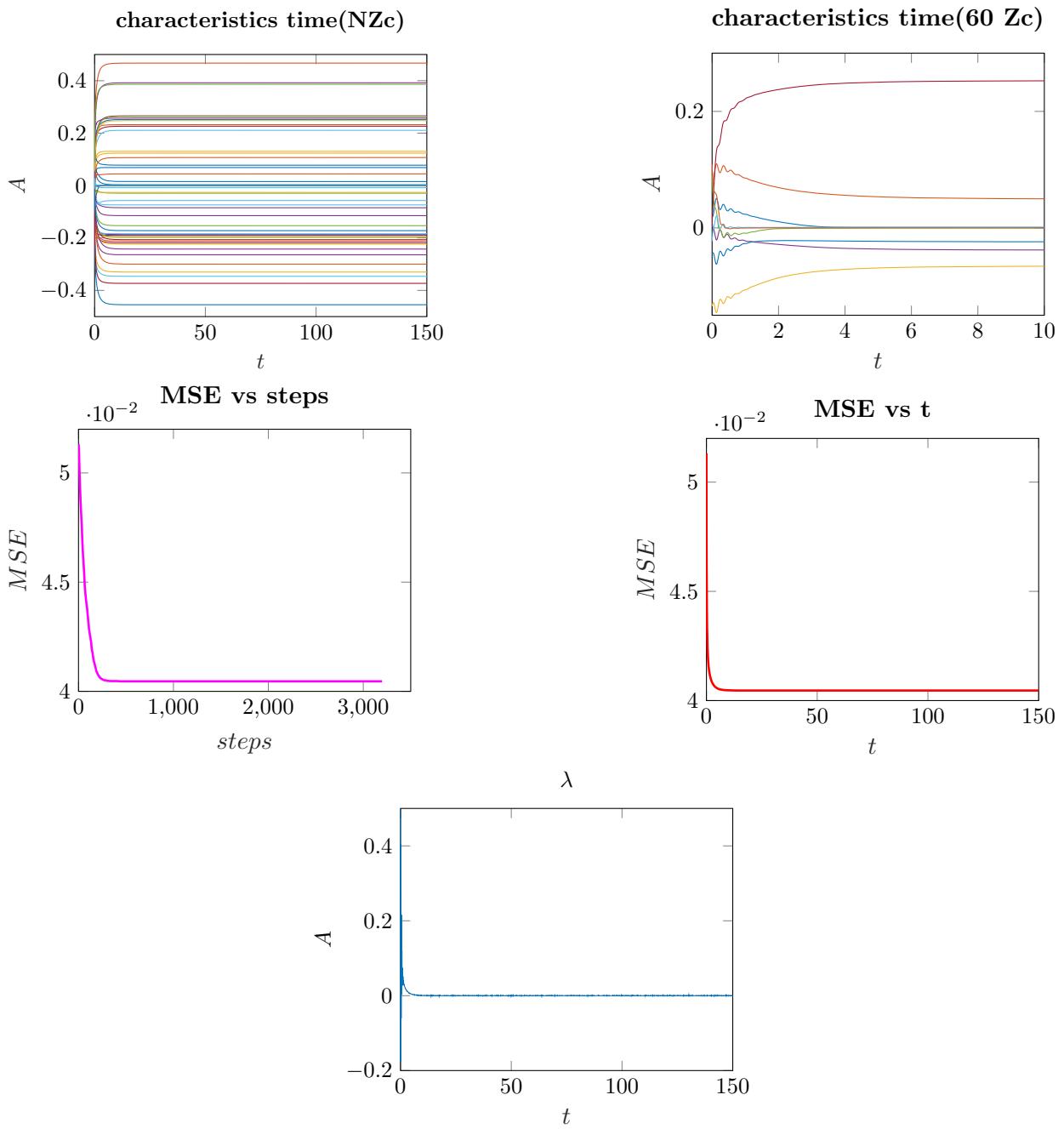
## 2.82 sim 4.88

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
1000	U	$4.3228E - 02$	00 : 41 : 23	150.00	3479	4.88
				$A$	$Nz$	$\eta$
				1	50	50
					$m$	$n$
					120	1024
					$\sigma$	
						0.0200



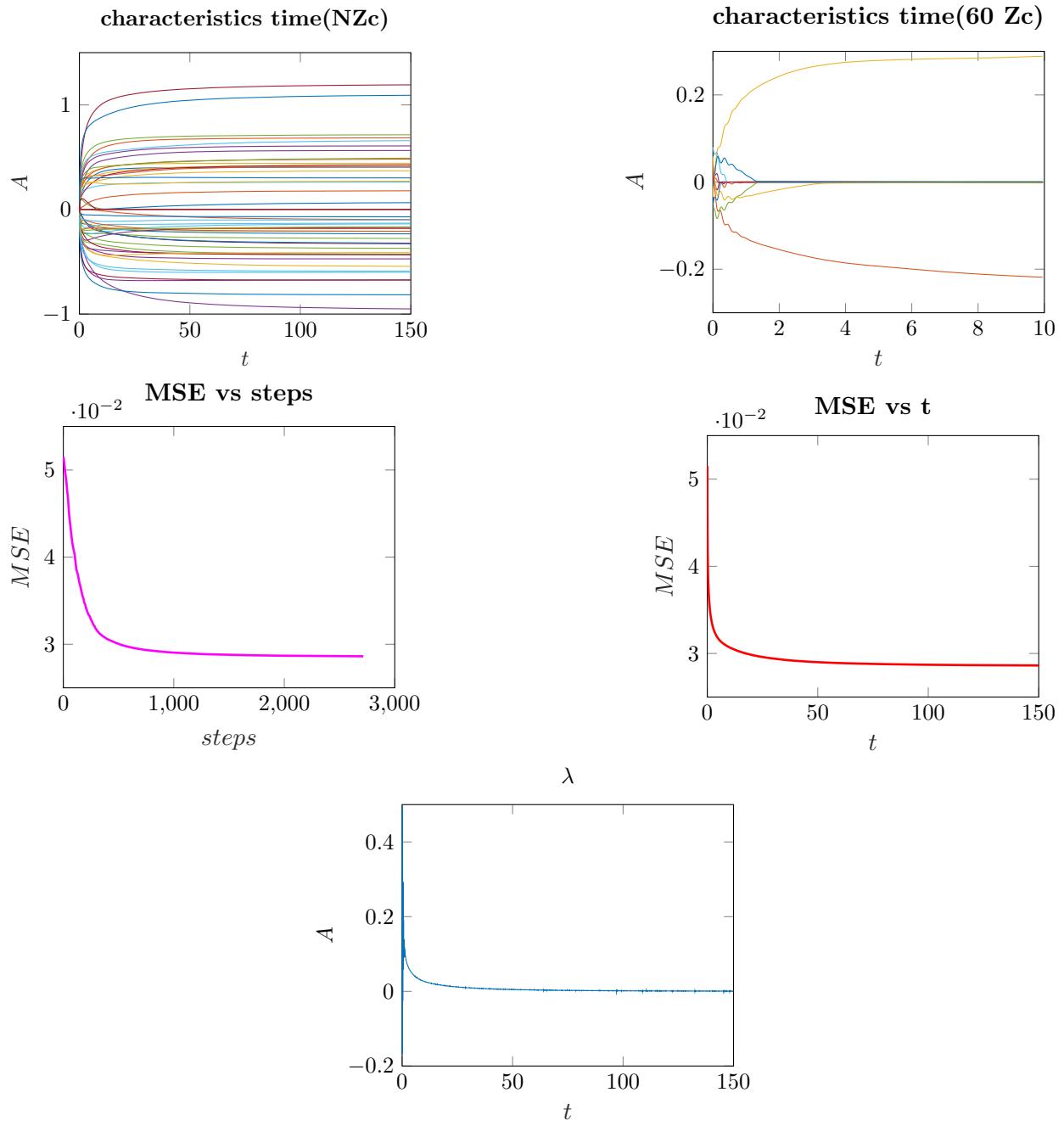
## 2.83 sim 4.89

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
1000	U	4.0463E - 02	00 : 37 : 53	150.00	3198	4.89
				$A$	$Nz$	$\eta$
				1	50	50
					140	$m$
					1024	$n$
					0.0200	$\sigma$



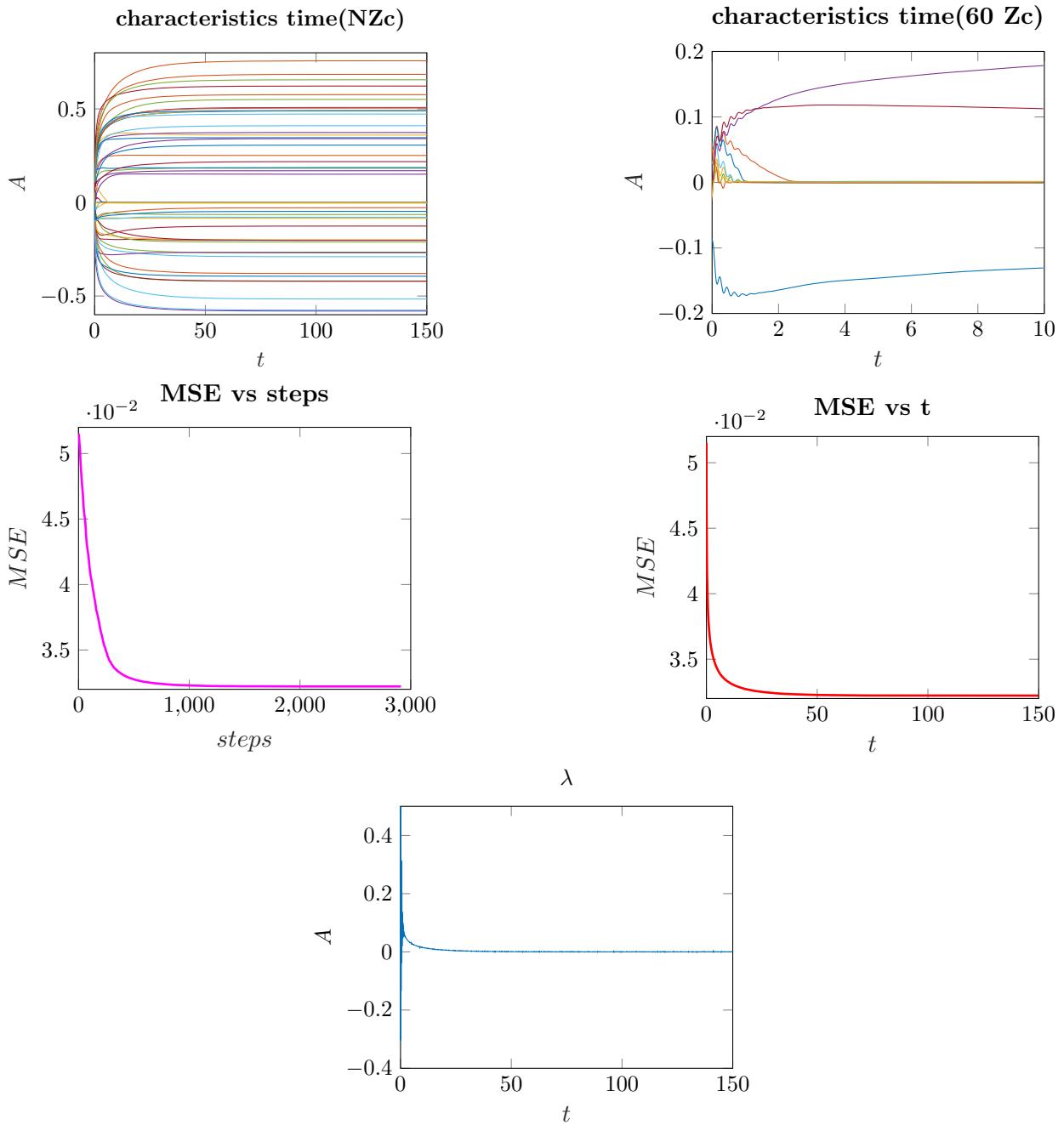
## 2.84 sim 4.90

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id			
1000	U	2.8623E - 02	00 : 32 : 10	150.00	2716	4.90			
				$A$	$Nz$	$\eta$	$m$	$n$	$\sigma$
				1	50	50	160	1024	0.0200



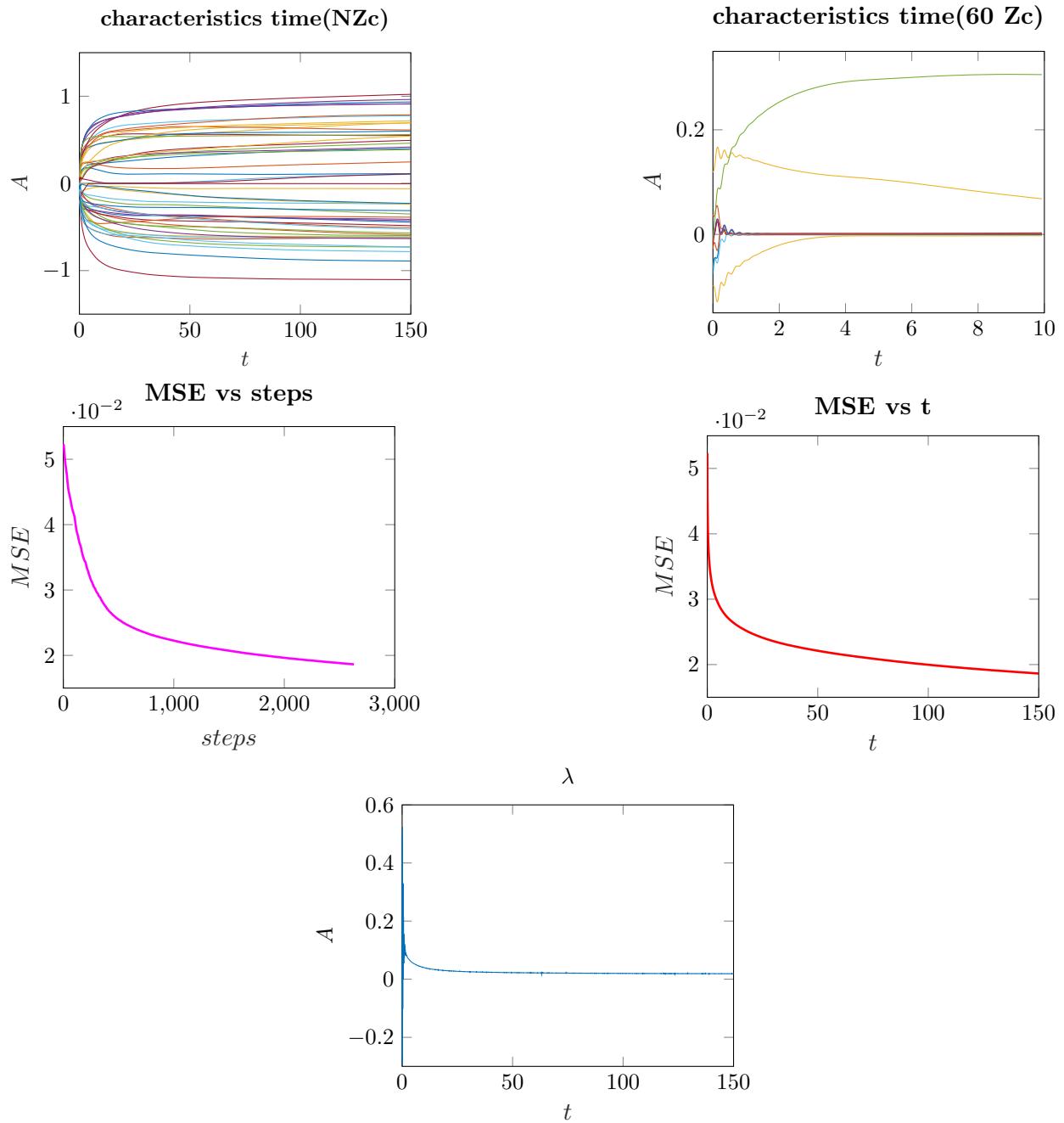
## 2.85 sim 4.91

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
1000	U	3.2220E - 02	00 : 34 : 42	150.00	2911	4.91
				$A$	$Nz$	$\eta$
				1	50	50
					$m$	$n$
					180	1024
					$\sigma$	
						0.0200



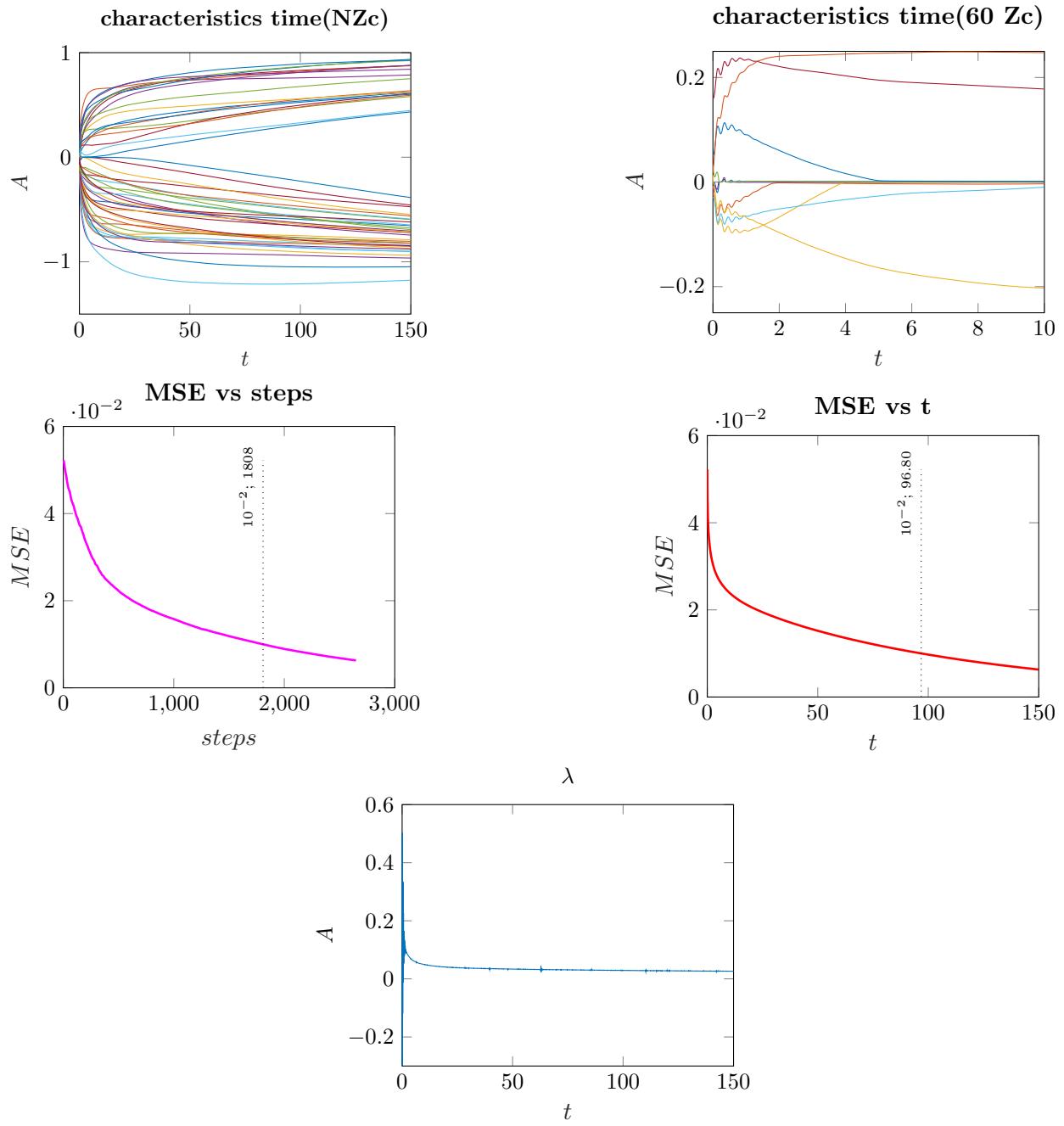
## 2.86 sim 4.92

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
1000	U	$1.8633E - 02$	00 : 31 : 25	150.00	2631	4.92
				$A$	$Nz$	$\eta$
				1	50	50
					$m$	$n$
					200	1024
					$\sigma$	
						0.0200



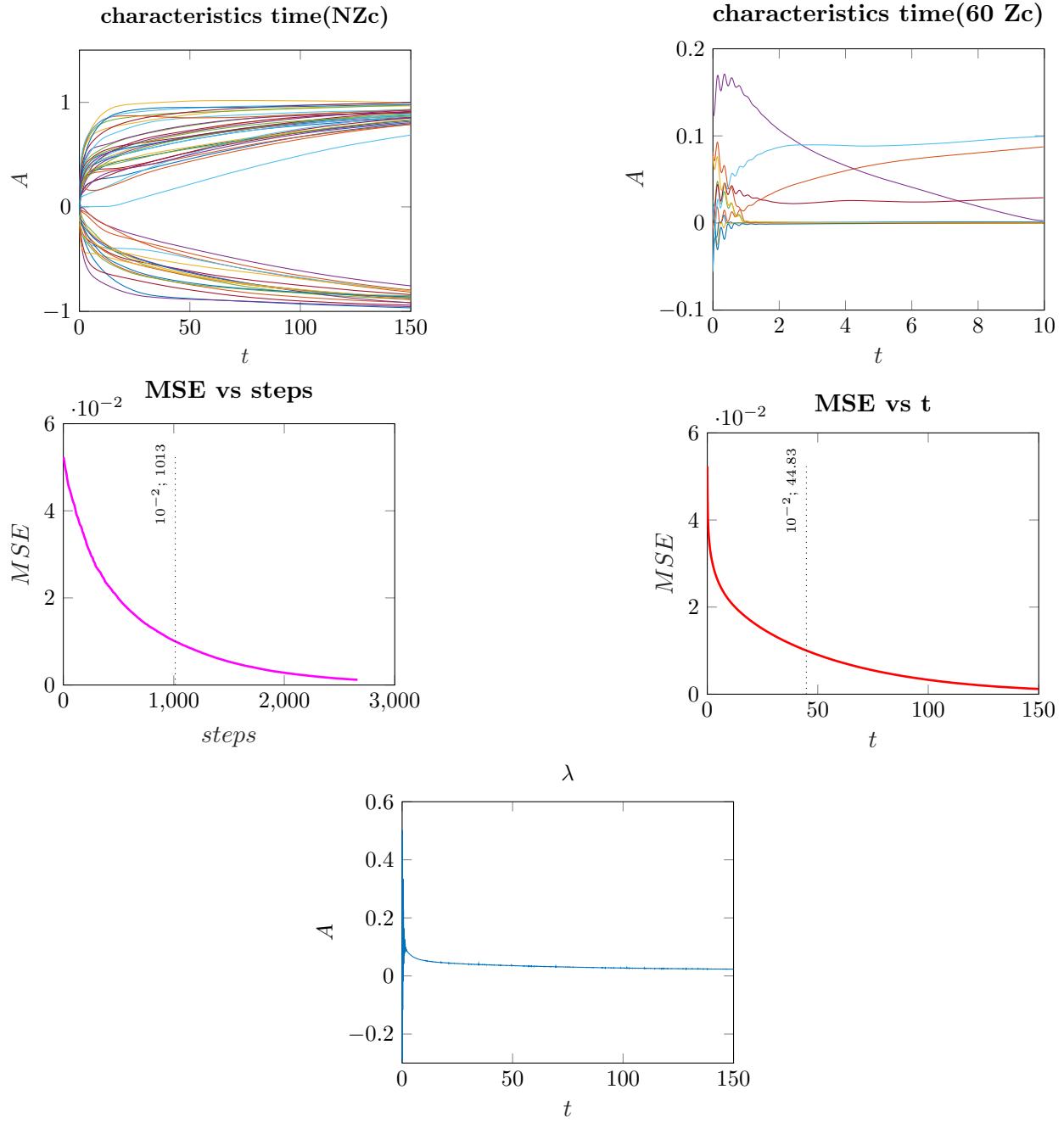
## 2.87 sim 4.101

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
1000	U	$6.3009E - 03$	00 : 31 : 23	150.00	2649	4.101
A	$Nz$	$\eta$	m	n	$\sigma$	
1	50	50	220	1024	0.0200	



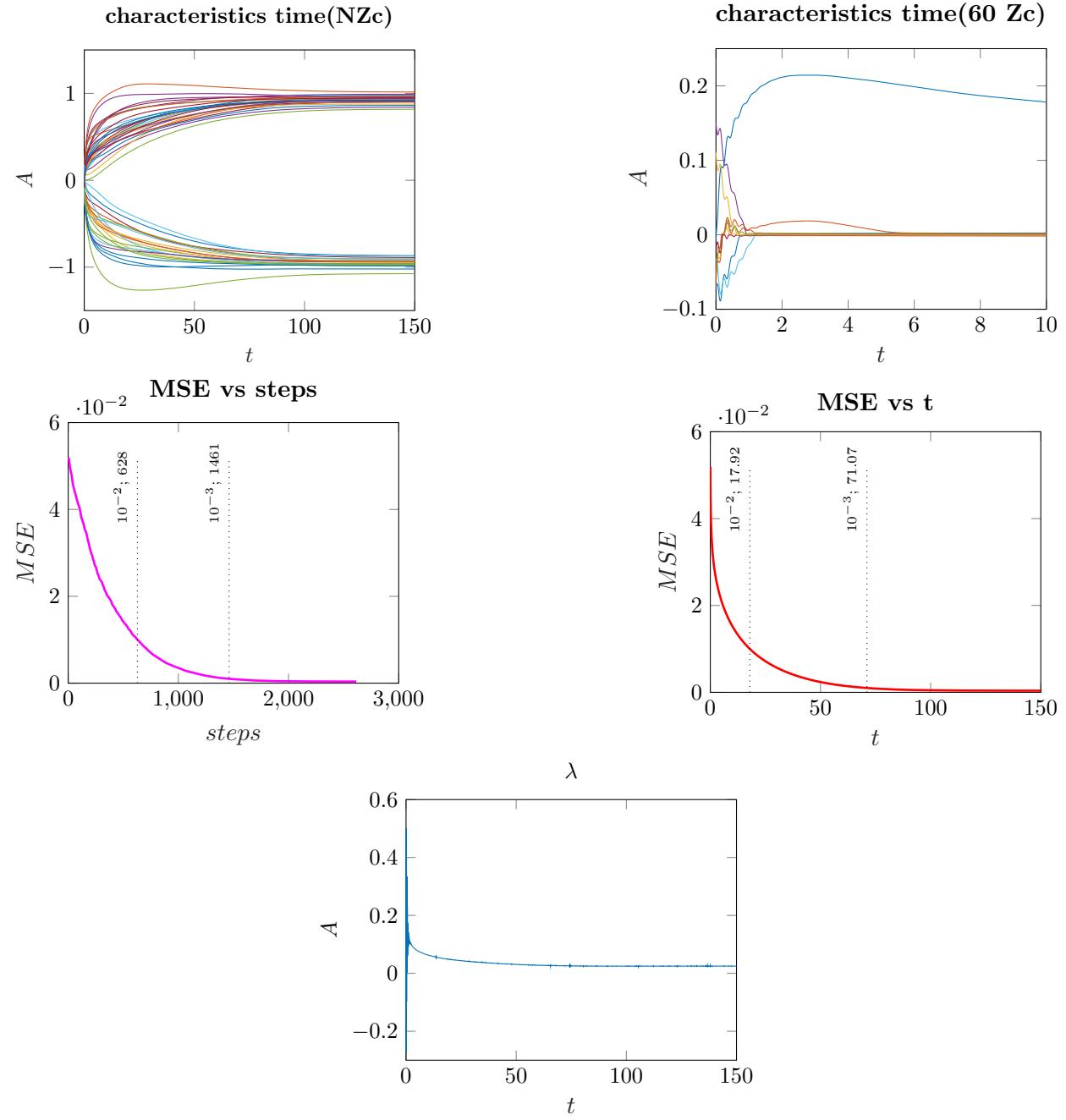
## 2.88 sim 4.102

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
1000	U	$1.2046E - 03$	00 : 31 : 49	150.00	2663	4.102
$A$	$Nz$	$\eta$	$m$	$n$	$\sigma$	
1	50	50	240	1024	0.0200	



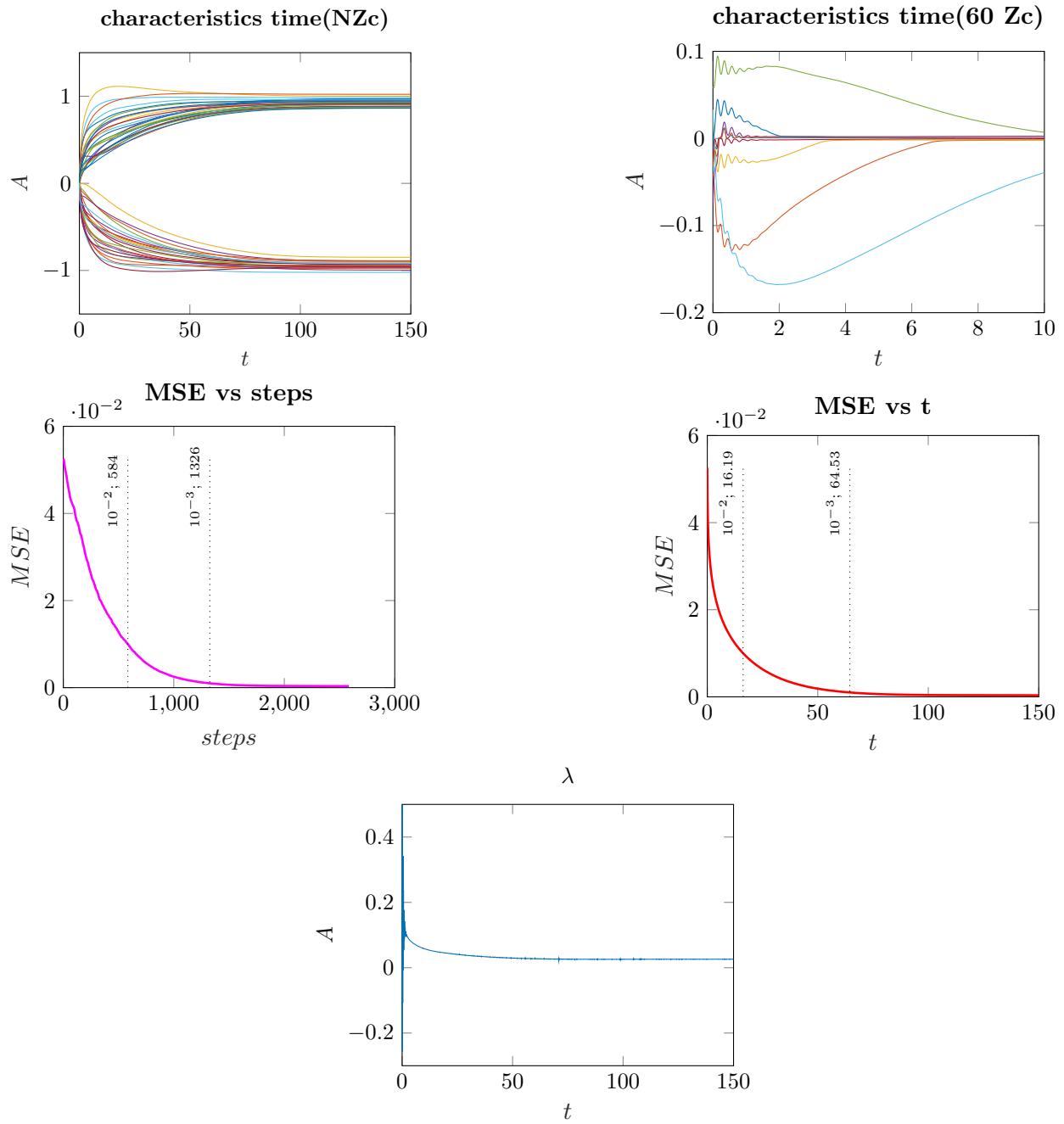
## 2.89 sim 4.103

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
1000	U	$3.7607E - 04$	00 : 30 : 51	150.00	2615	4.103
A	$Nz$	$\eta$	m	n	$\sigma$	
1	50	50	260	1024	0.0200	



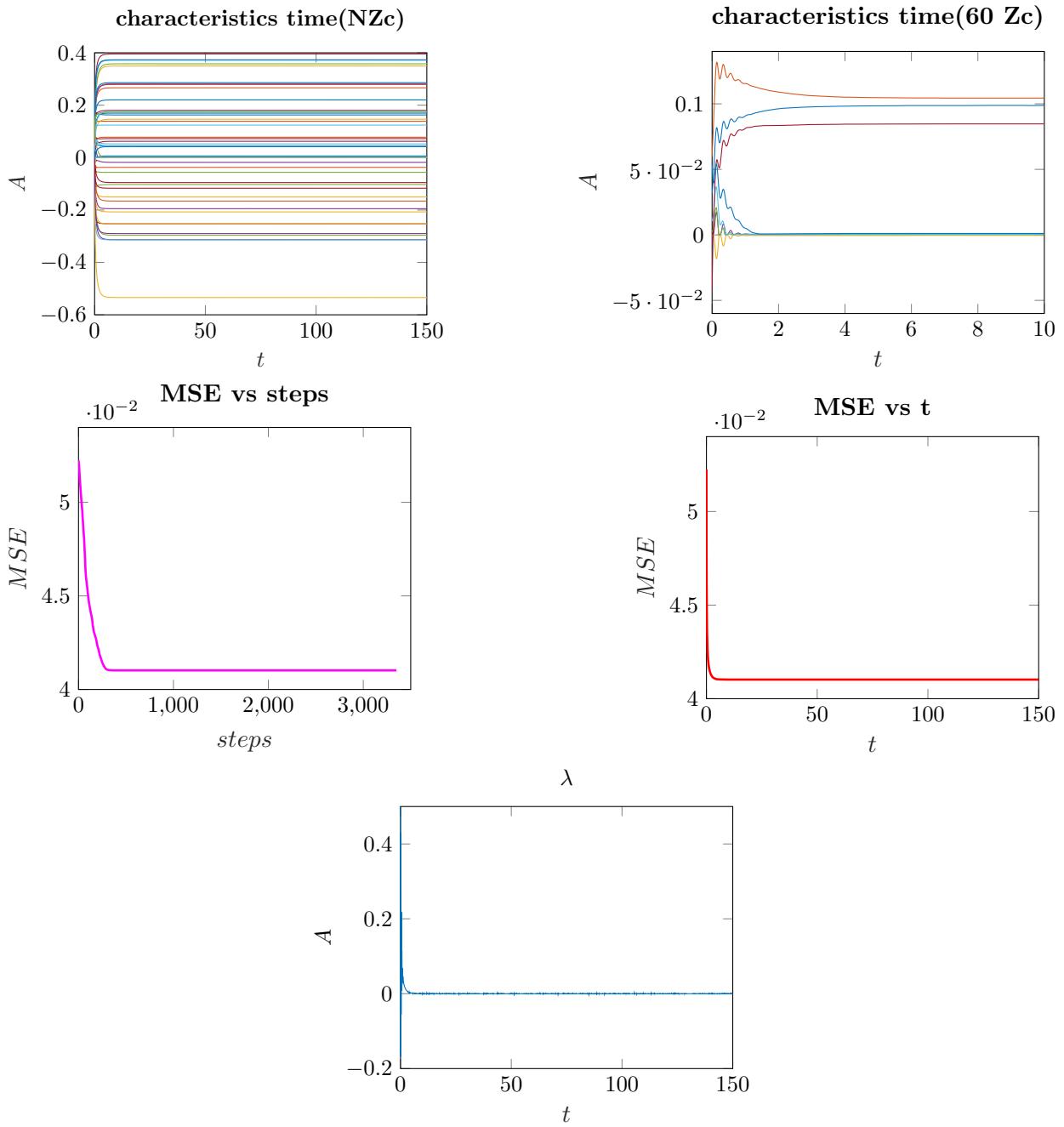
## 2.90 sim 4.104

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id			
1000	U	$3.6267E - 04$	00 : 30 : 42	150.00	2584	4.104			
				$A$	$Nz$	$\eta$	$m$	$n$	$\sigma$
				1	50	50	280	1024	0.0200



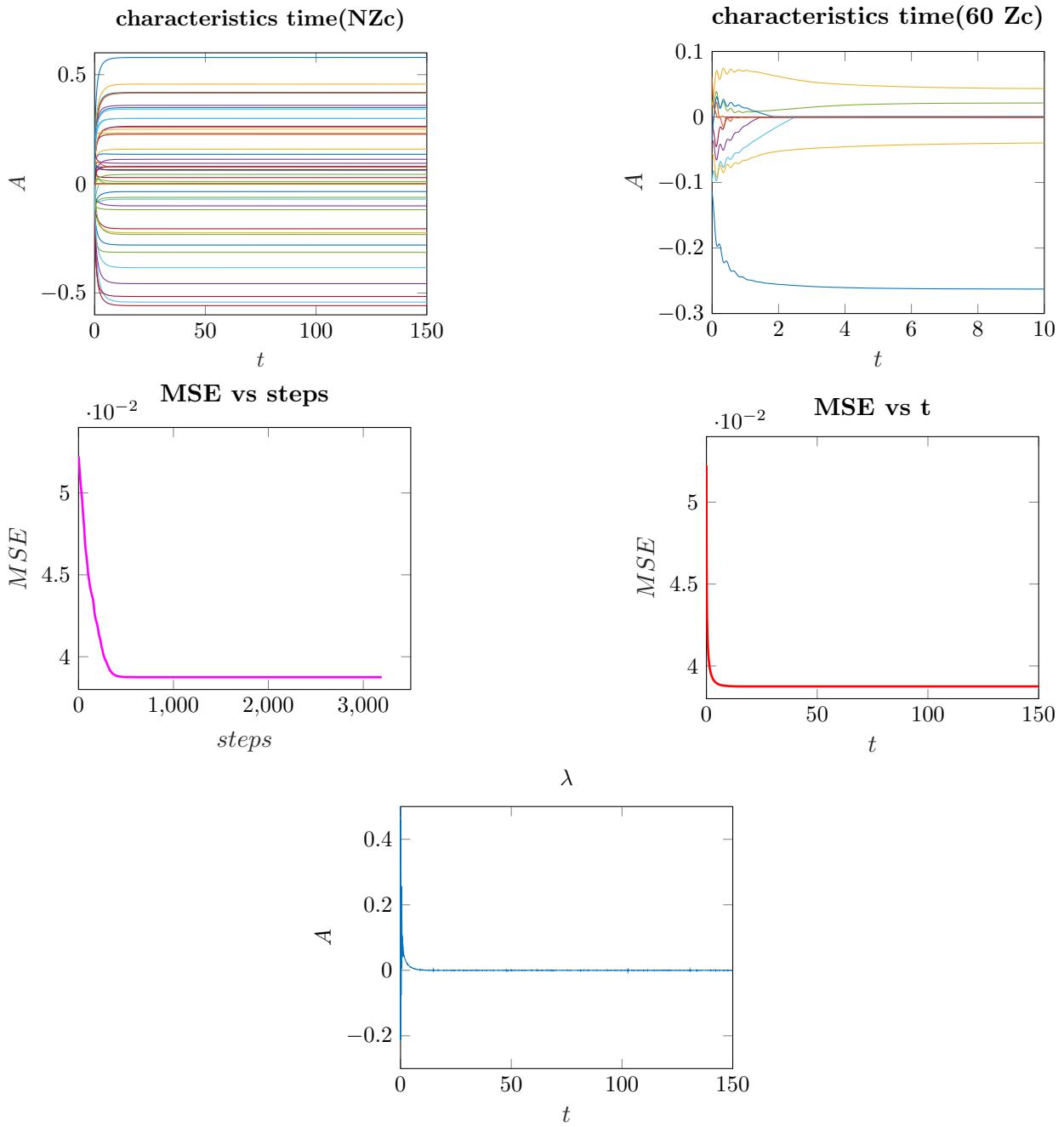
## 2.91 sim 4.63

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
2500	U	$4.1015E - 02$	00 : 40 : 46	150.00	3349	4.63
				$A$	$Nz$	$\eta$
				1	50	50
					$m$	$n$
					120	1024
					$\sigma$	
						0.0200



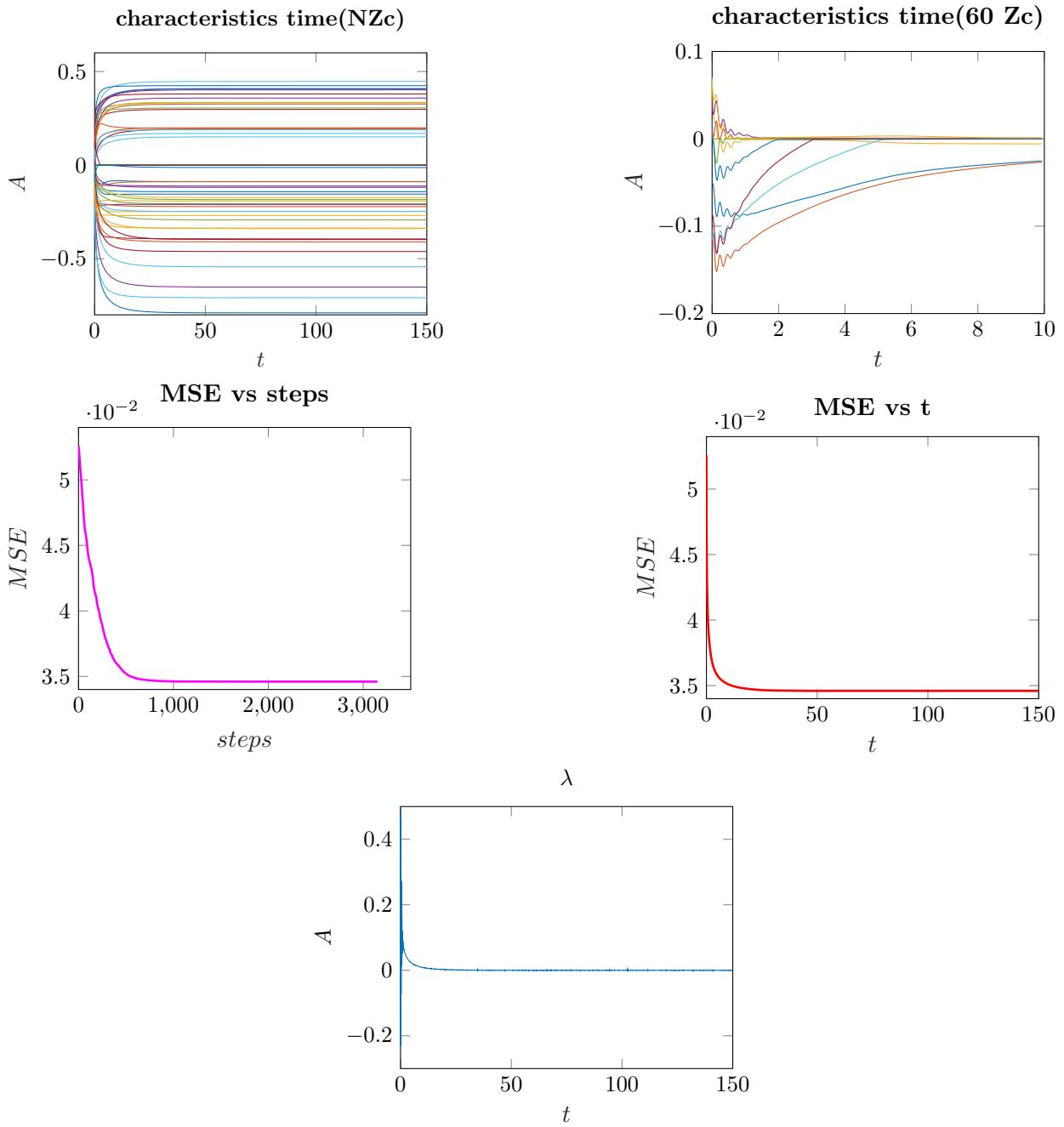
## 2.92 sim 4.64

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
2500	U	$3.8747E - 02$	00 : 39 : 15	150.00	3195	4.64
				$A$	$Nz$	$\eta$
				1	50	50
					140	$m$
					1024	$n$
					0.0200	$\sigma$



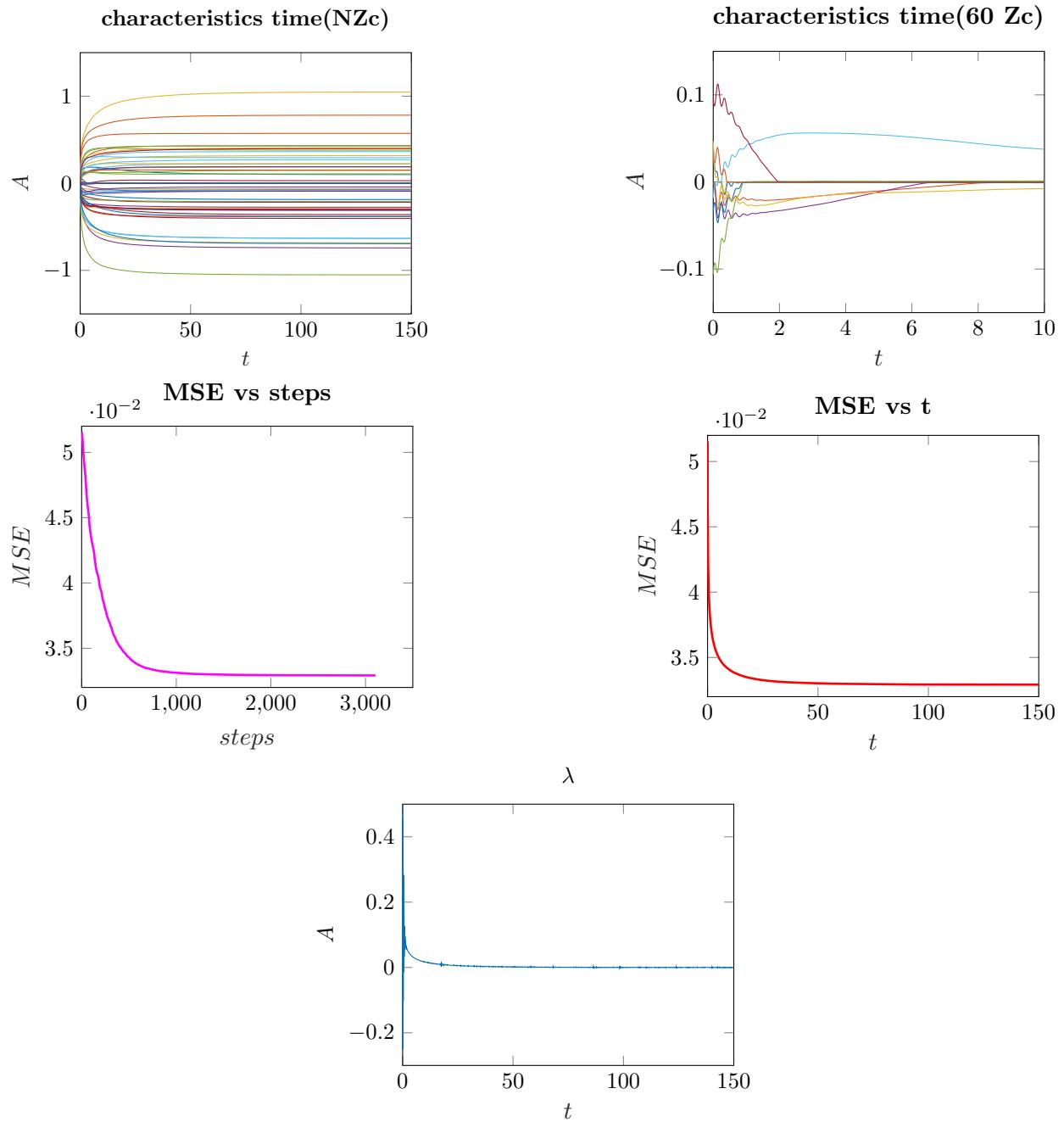
## 2.93 sim 4.65

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id			
2500	U	$3.4598E - 02$	00 : 38 : 46	150.00	3149	4.65			
				$A$	$Nz$	$\eta$	$m$	$n$	$\sigma$
				1	50	50	160	1024	0.0200



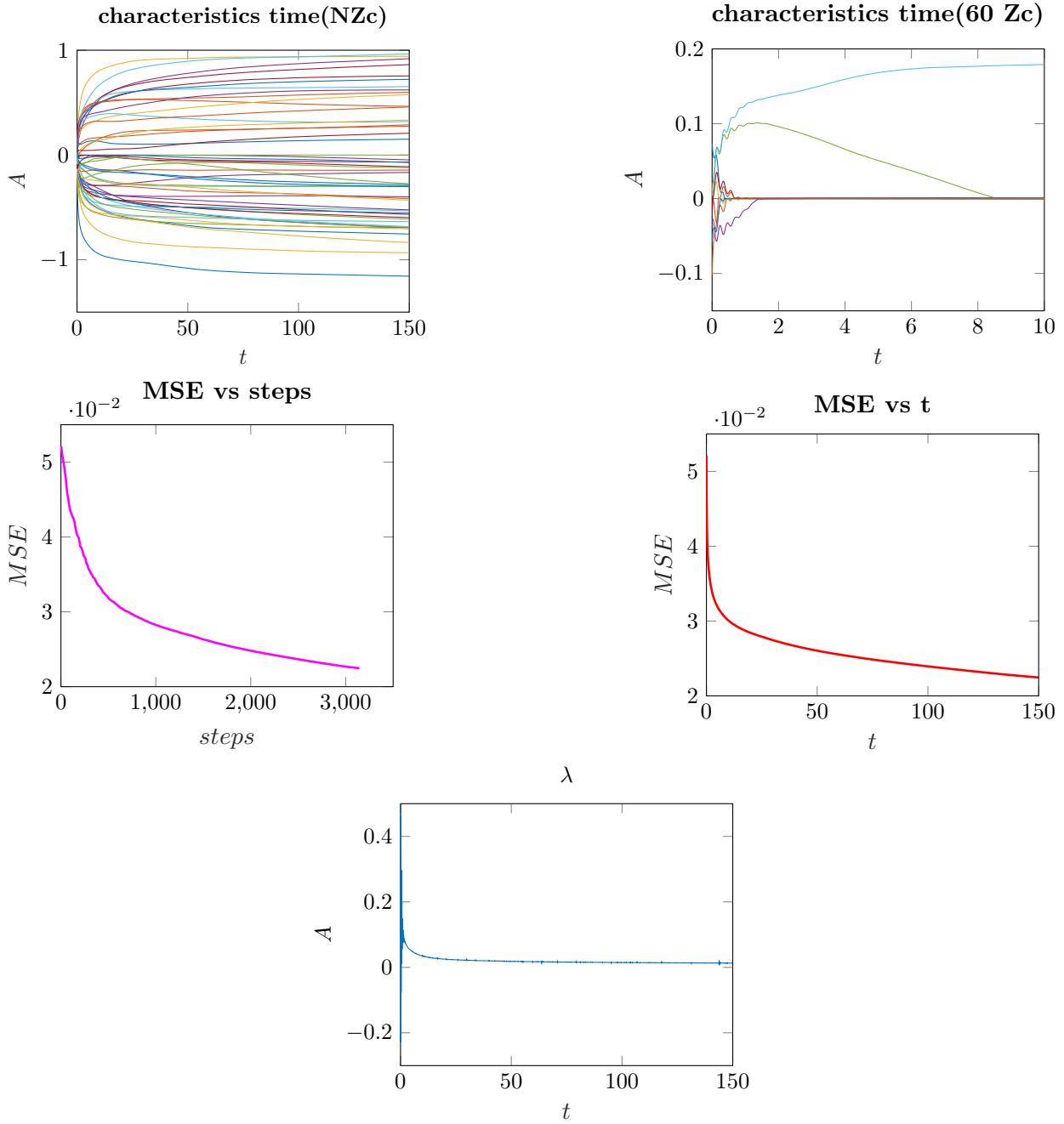
## 2.94 sim 4.66

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
2500	U	$3.2923E - 02$	00 : 38 : 10	150.00	3105	4.66
				$A$	$Nz$	$\eta$
				1	50	50
					$m$	$n$
					180	1024
					$\sigma$	
						0.0200



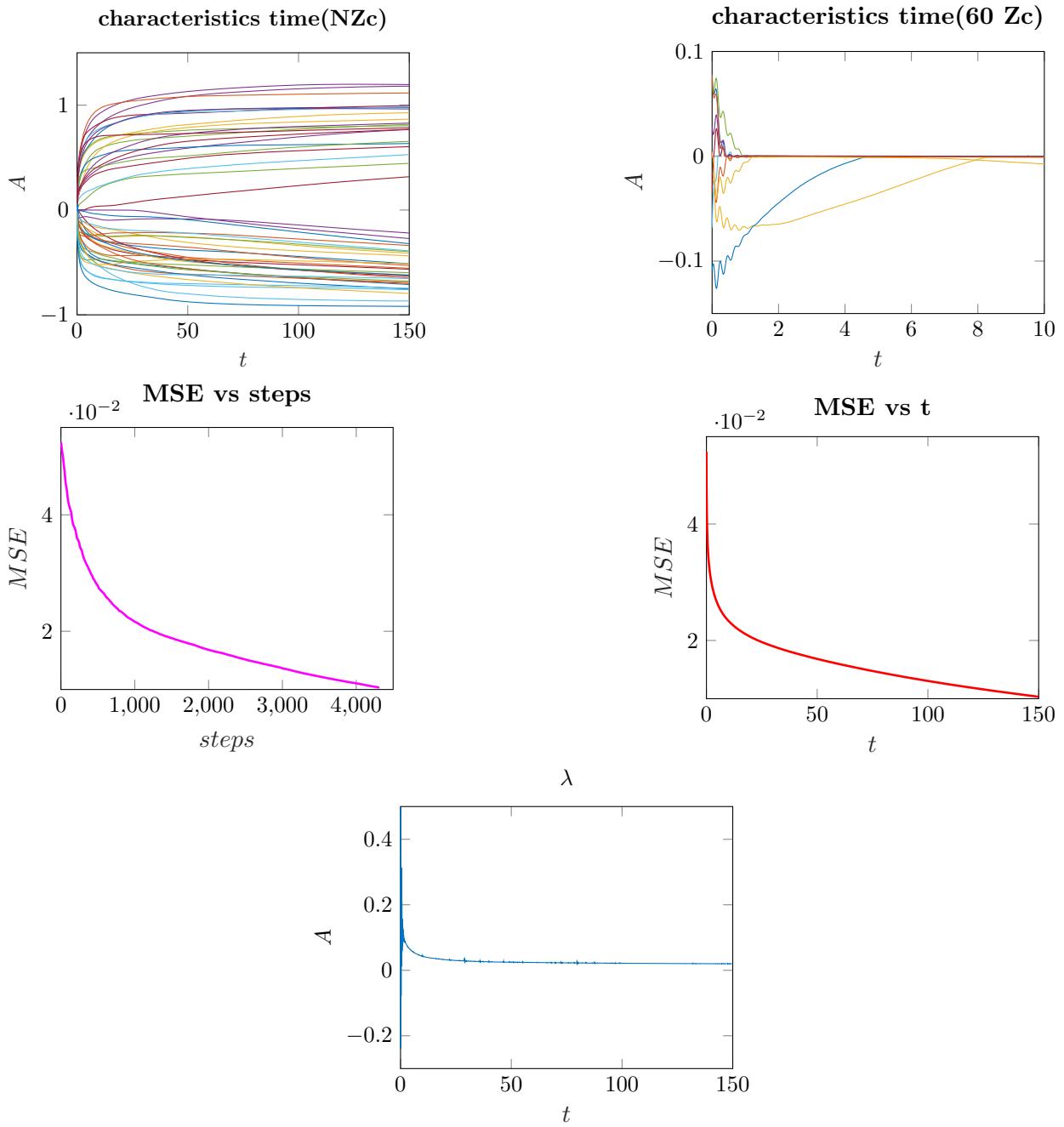
## 2.95 sim 4.67

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id			
2500	U	$2.2455E - 02$	00 : 38 : 08	150.00	3145	4.67			
				$A$	$Nz$	$\eta$	$m$	$n$	$\sigma$
				1	50	50	200	1024	0.0200



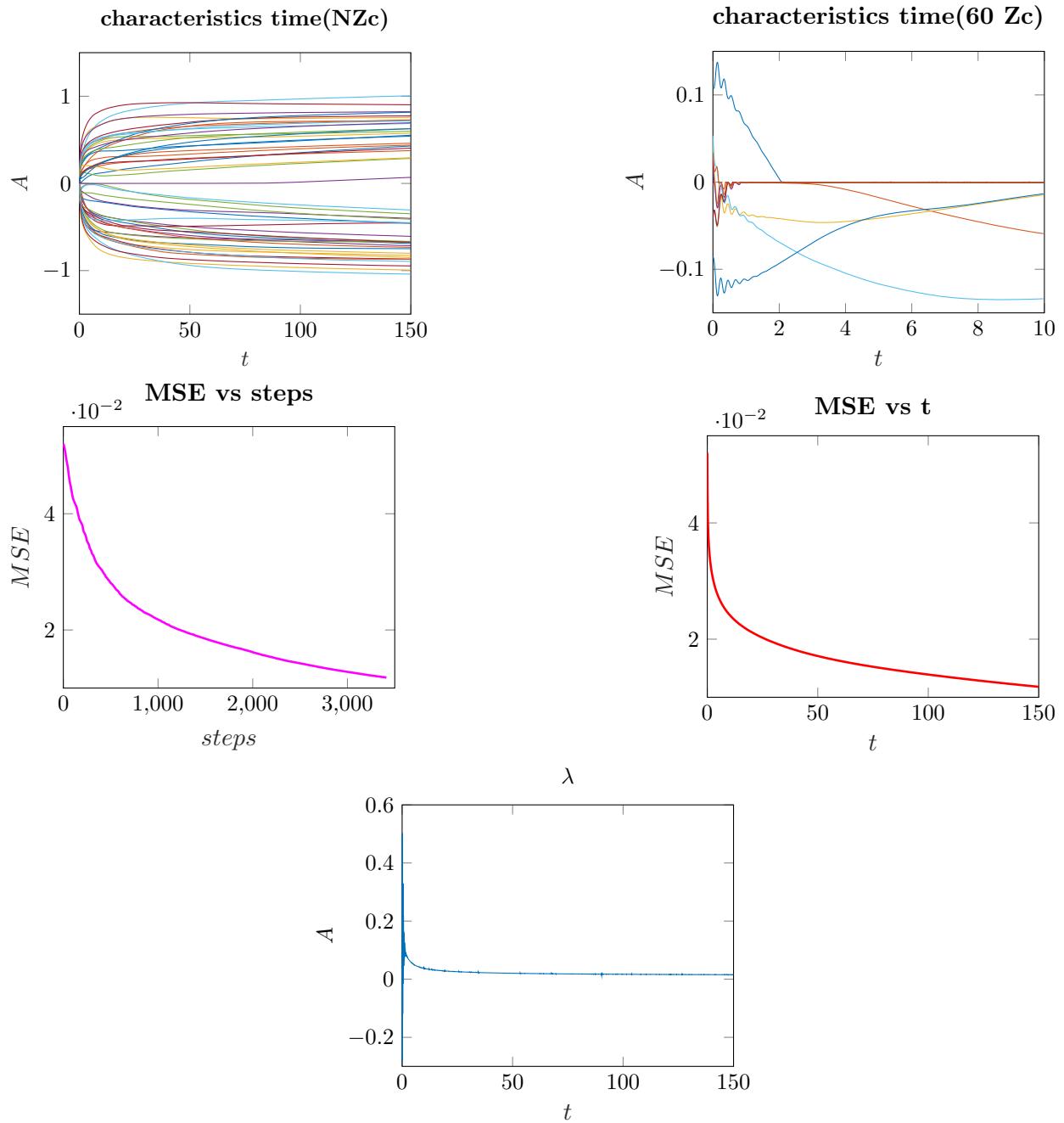
## 2.96 sim 4.76

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
2500	U	$1.0334E - 02$	00 : 49 : 30	150.00	4312	4.76
				$A$	$Nz$	$\eta$
				1	50	50
					$m$	$n$
					220	1024
					$\sigma$	
						0.0200



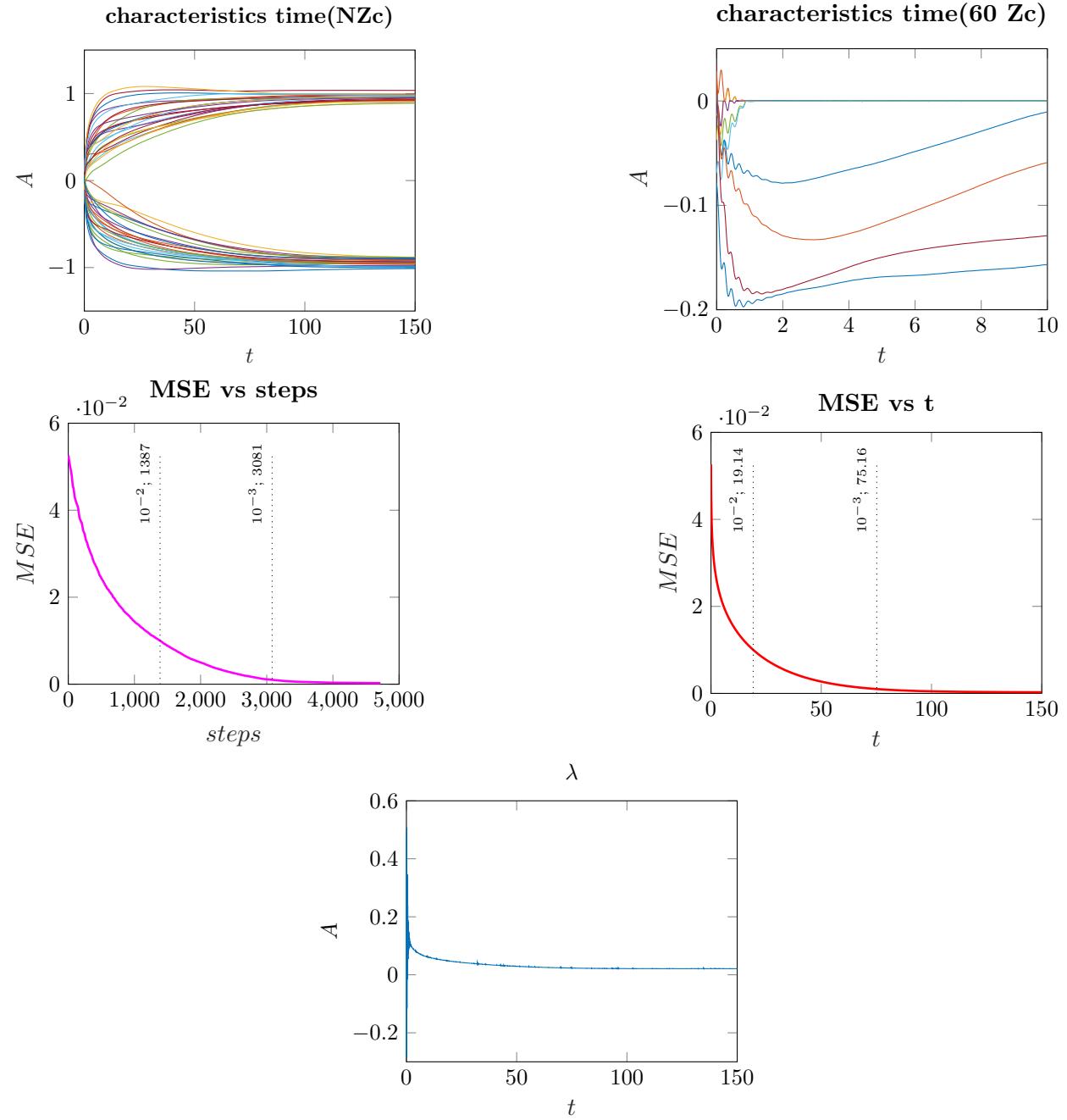
## 2.97 sim 4.77

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
2500	U	1.1807E - 02	00 : 39 : 55	150.00	3412	4.77
				$A$	$Nz$	$\eta$
				1	50	50
					$m$	$n$
					240	1024
					$\sigma$	
						0.0200



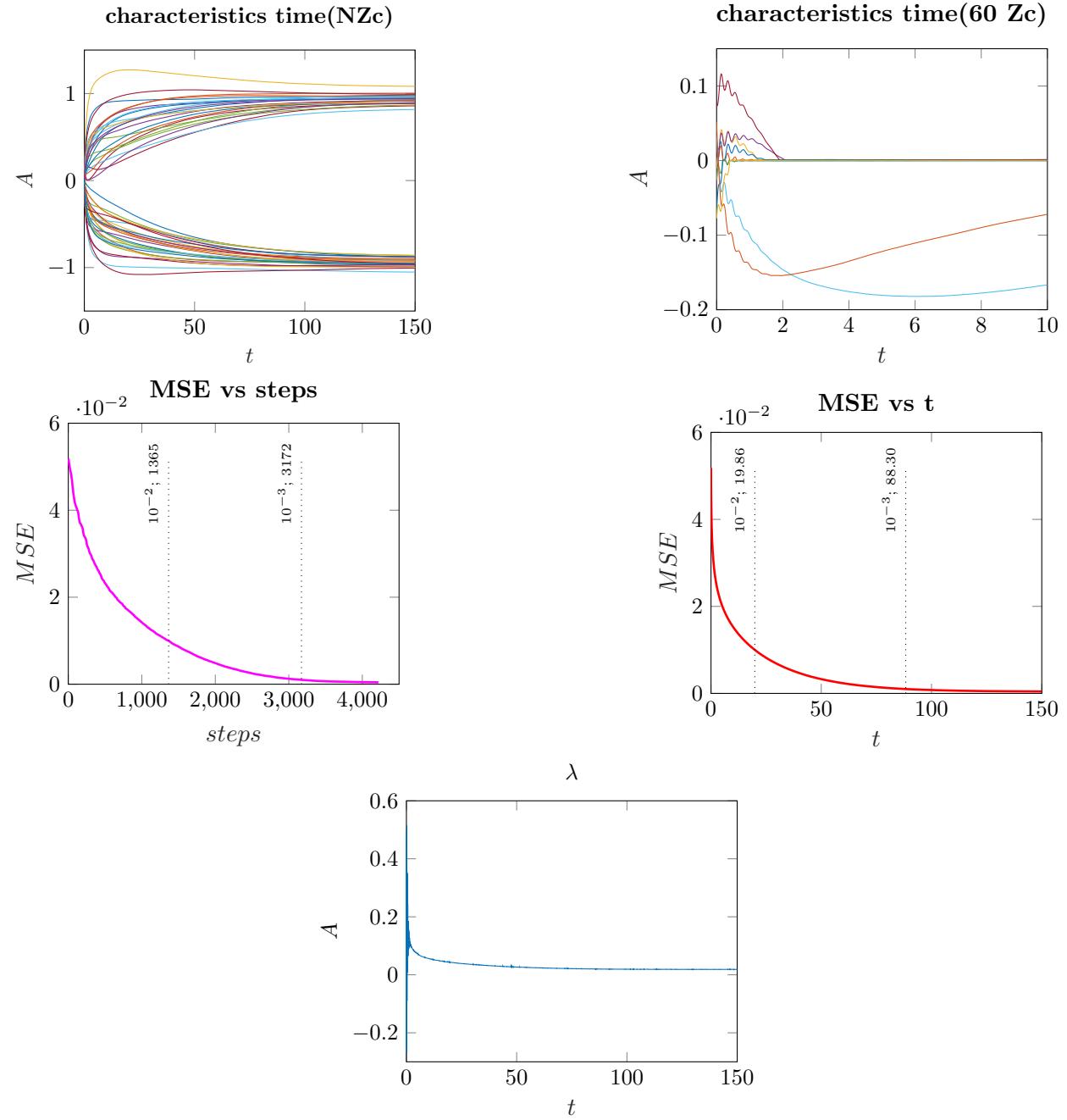
## 2.98 sim 4.78

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
2500	U	$2.6485E - 04$	00 : 54 : 43	150.00	4718	4.78
				$A$	$Nz$	$\eta$
				1	50	50
					$m$	$n$
					260	1024
					$\sigma$	
						0.0200



## 2.99 sim 4.79

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
2500	U	$4.3894E - 04$	00 : 48 : 51	150.00	4219	4.79
				$A$	$Nz$	$\eta$
				1	50	50
					280	$m$
					1024	$n$
					0.0200	$\sigma$

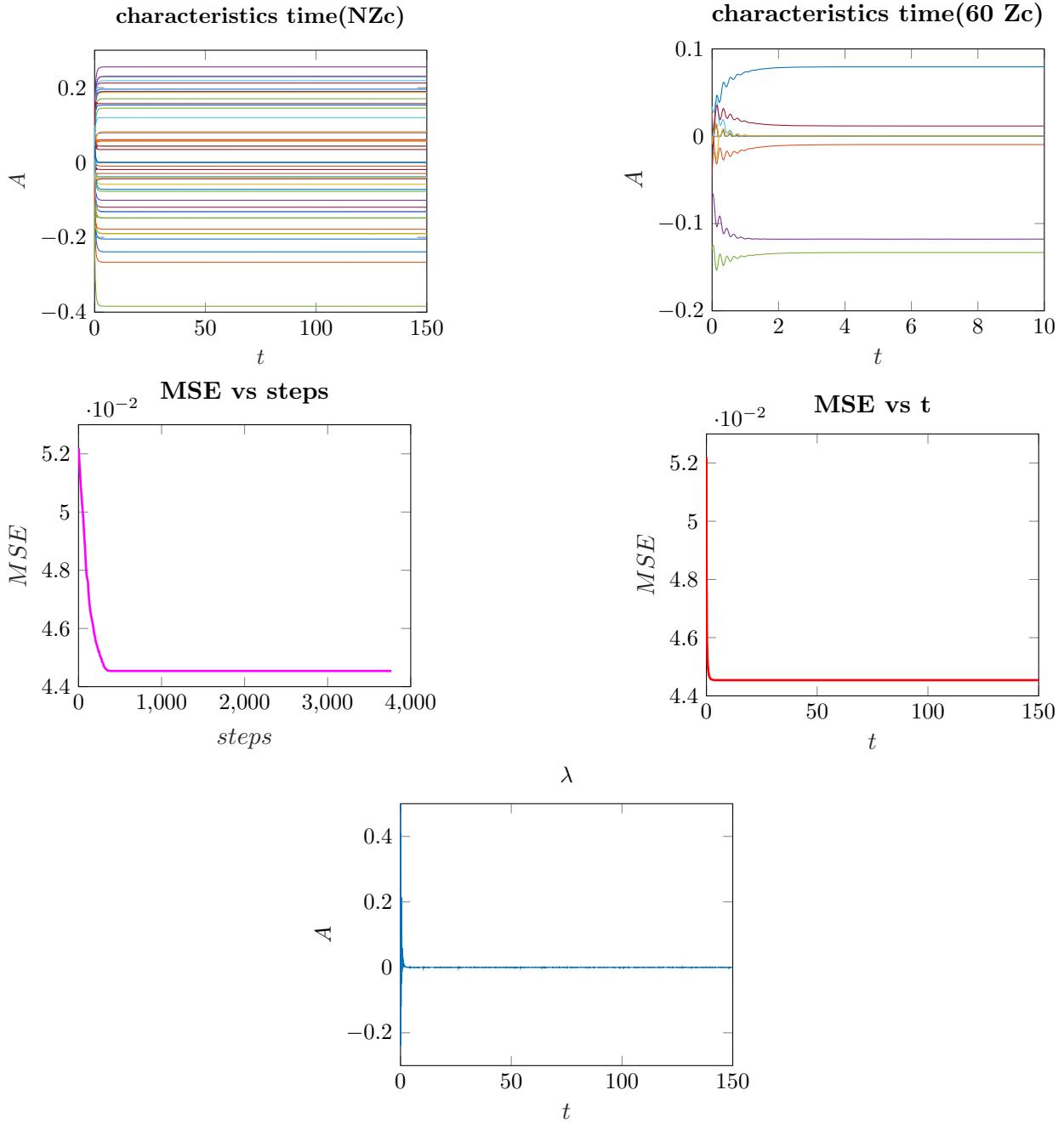


## 2.100 sim 4.1

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
5000	U	4.4536E - 02	00 : 57 : 51	150.00	3768	4.1
				$A$	$Nz$	$\eta$
				1	50	50

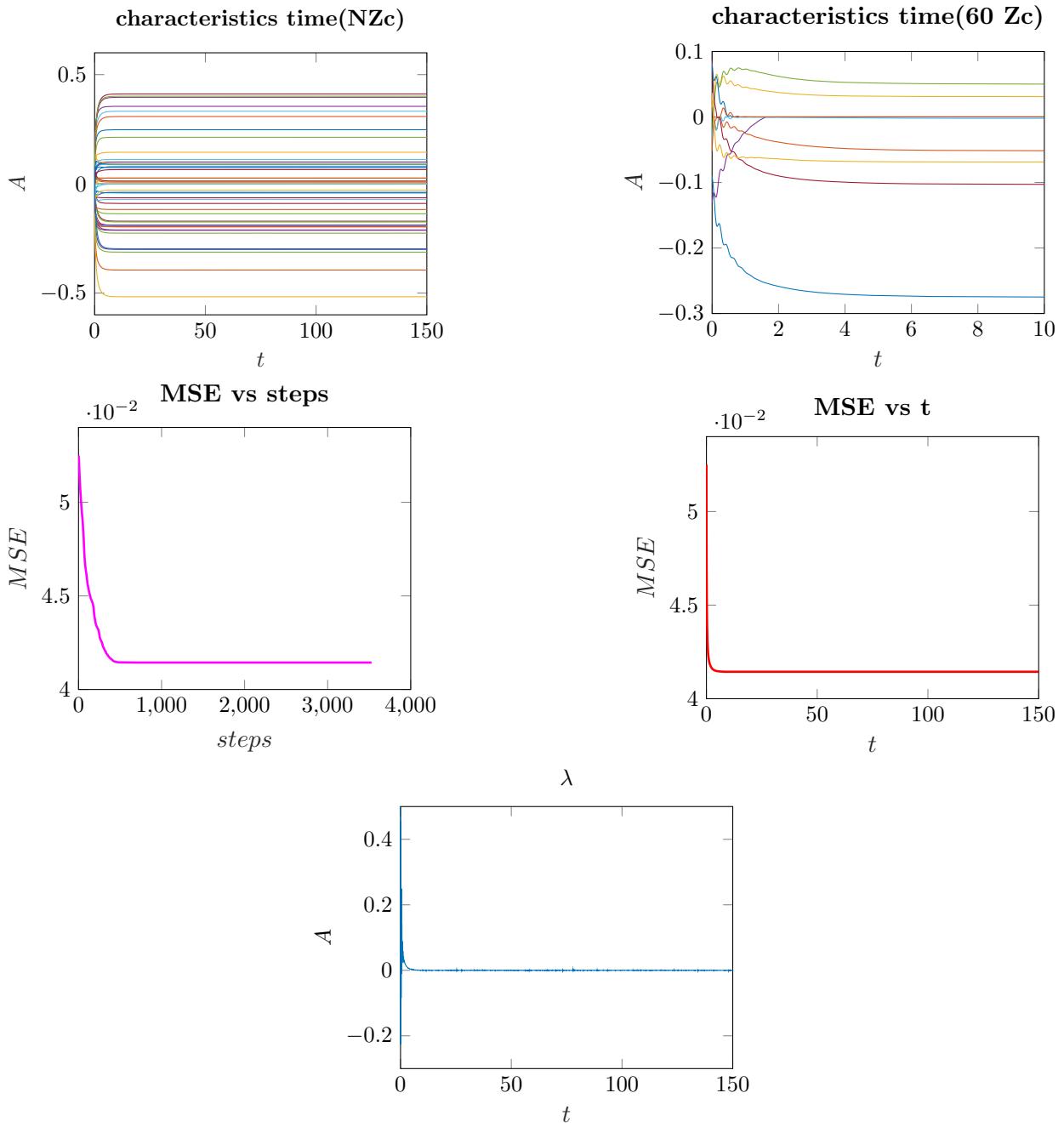
$m$        $n$        $\sigma$

120	1024	0.0200
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## 2.101 sim 4.2

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id		
5000	U	4.1440E - 02	00 : 54 : 33	150.00	3528	4.2		
			$A$	$Nz$	$\eta$	$m$	$n$	$\sigma$
			1	50	50	140	1024	0.0200

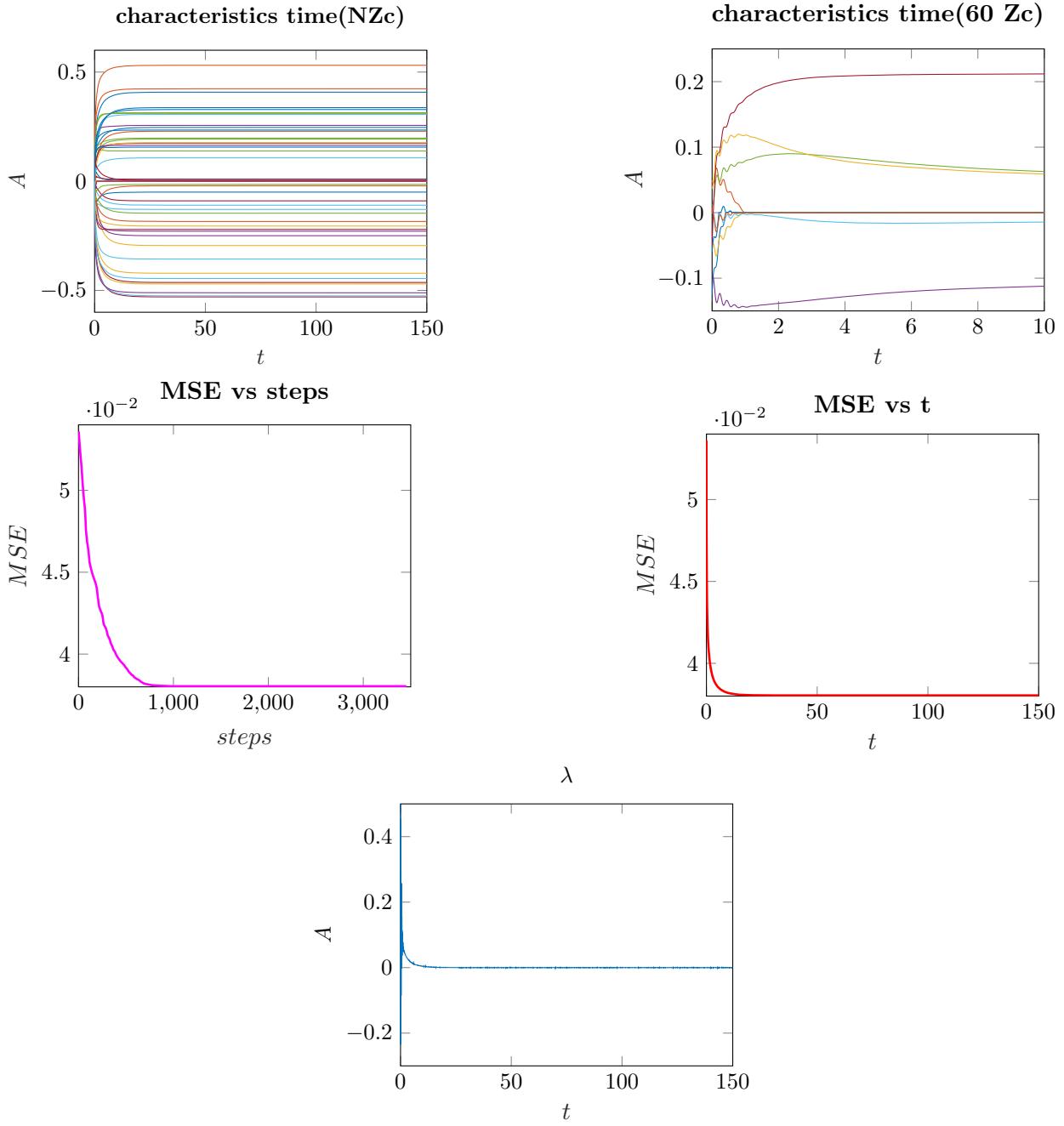


## 2.102 sim 4.3

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
5000	U	<b>3.8036E - 02</b>	00 : 54 : 36	150.00	3454	4.3
				$A$	$Nz$	$\eta$
				1	50	50

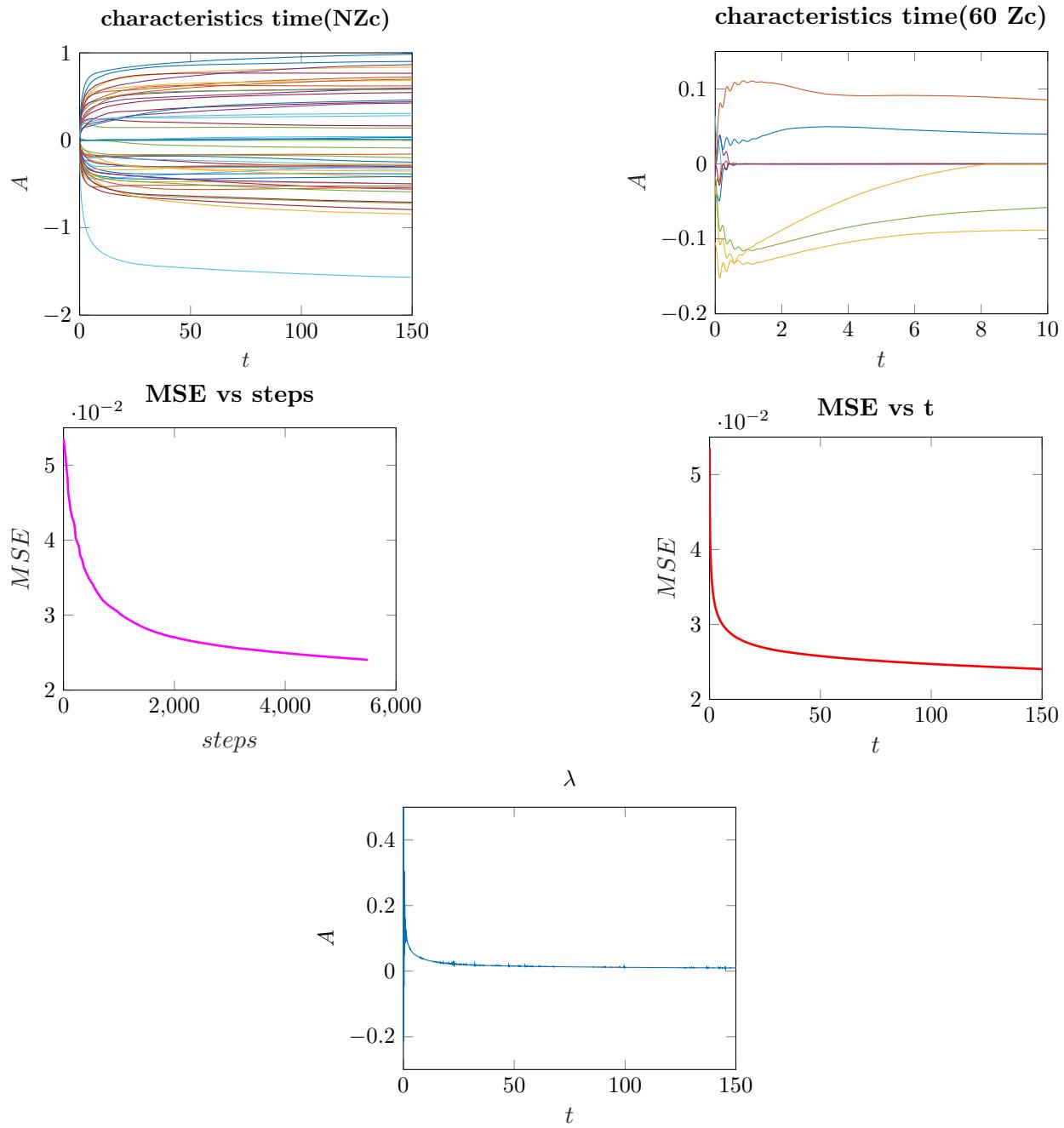
$m$        $n$        $\sigma$

160	1024	0.0200
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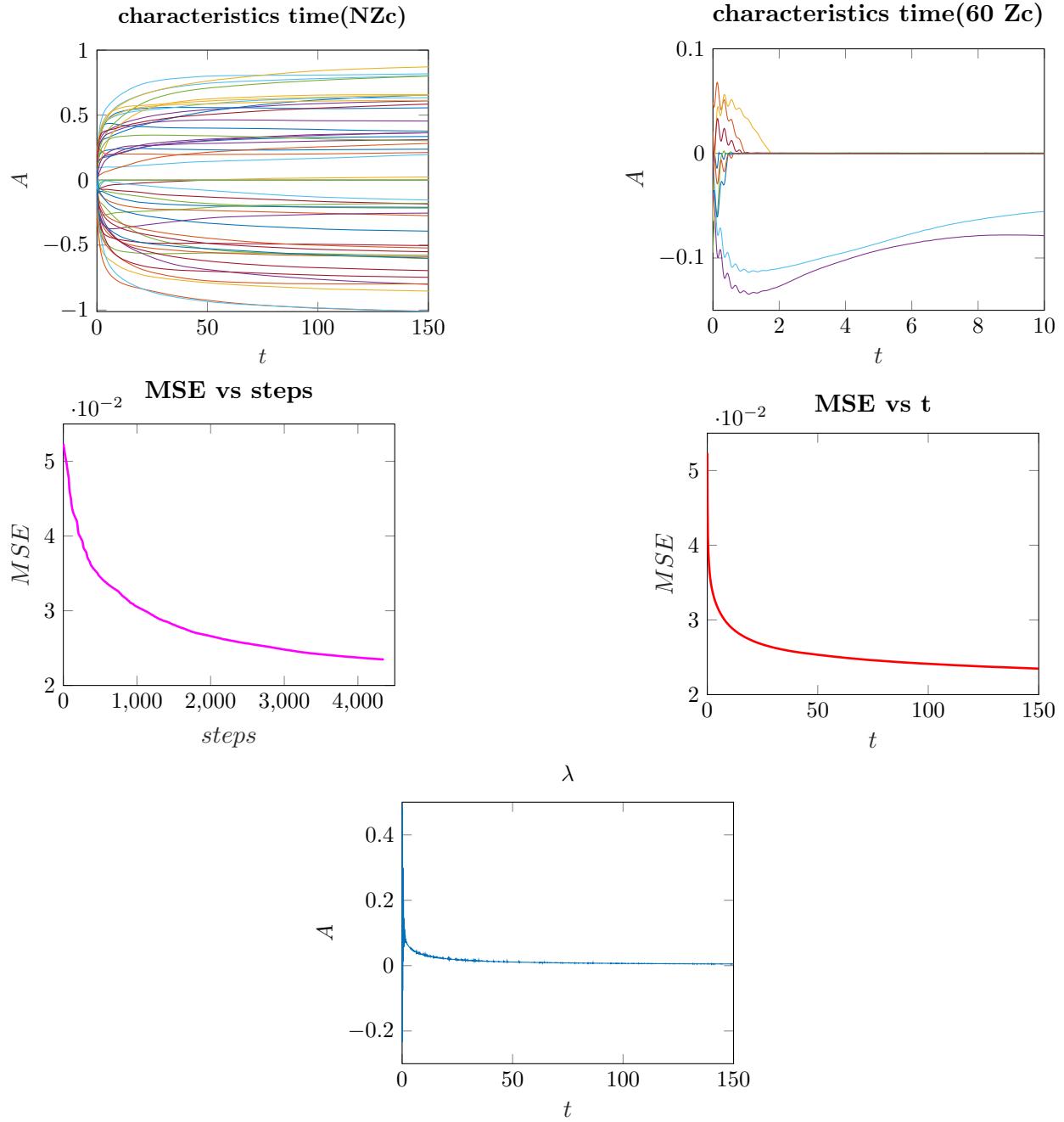
## 2.103 sim 4.4

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
5000	U	2.4037E - 02	01 : 23 : 54	150.00	5495	4.4
$A$	$Nz$	$\eta$	$m$	$n$	$\sigma$	
1	50	50	180	1024	0.0200	



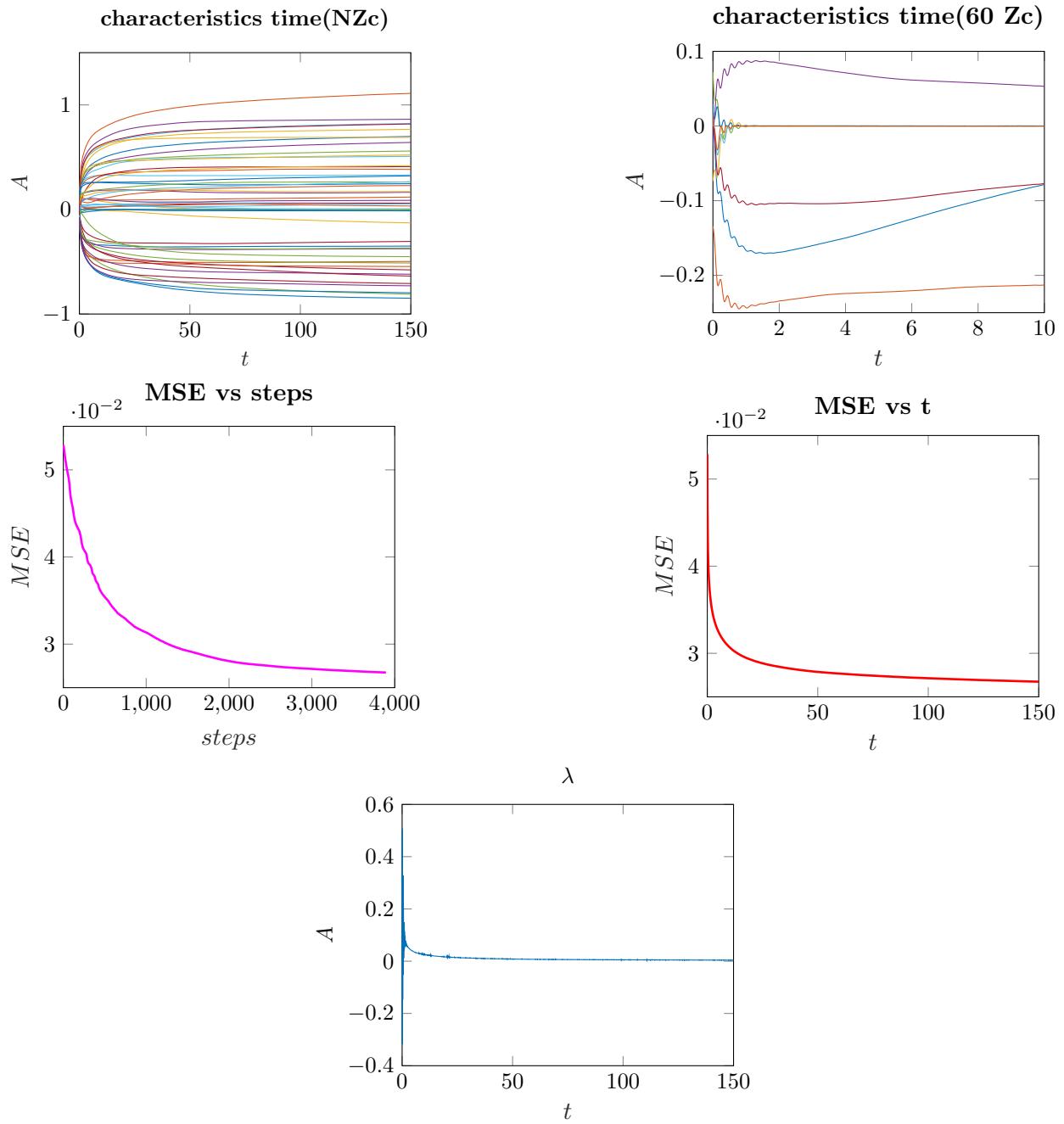
## 2.104 sim 4.5

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
5000	U	2.3482E - 02	01 : 08 : 05	150.00	4351	4.5
				$A$	$Nz$	$\eta$
				1	50	50
					$m$	$n$
					200	1024
					$\sigma$	
						0.0200



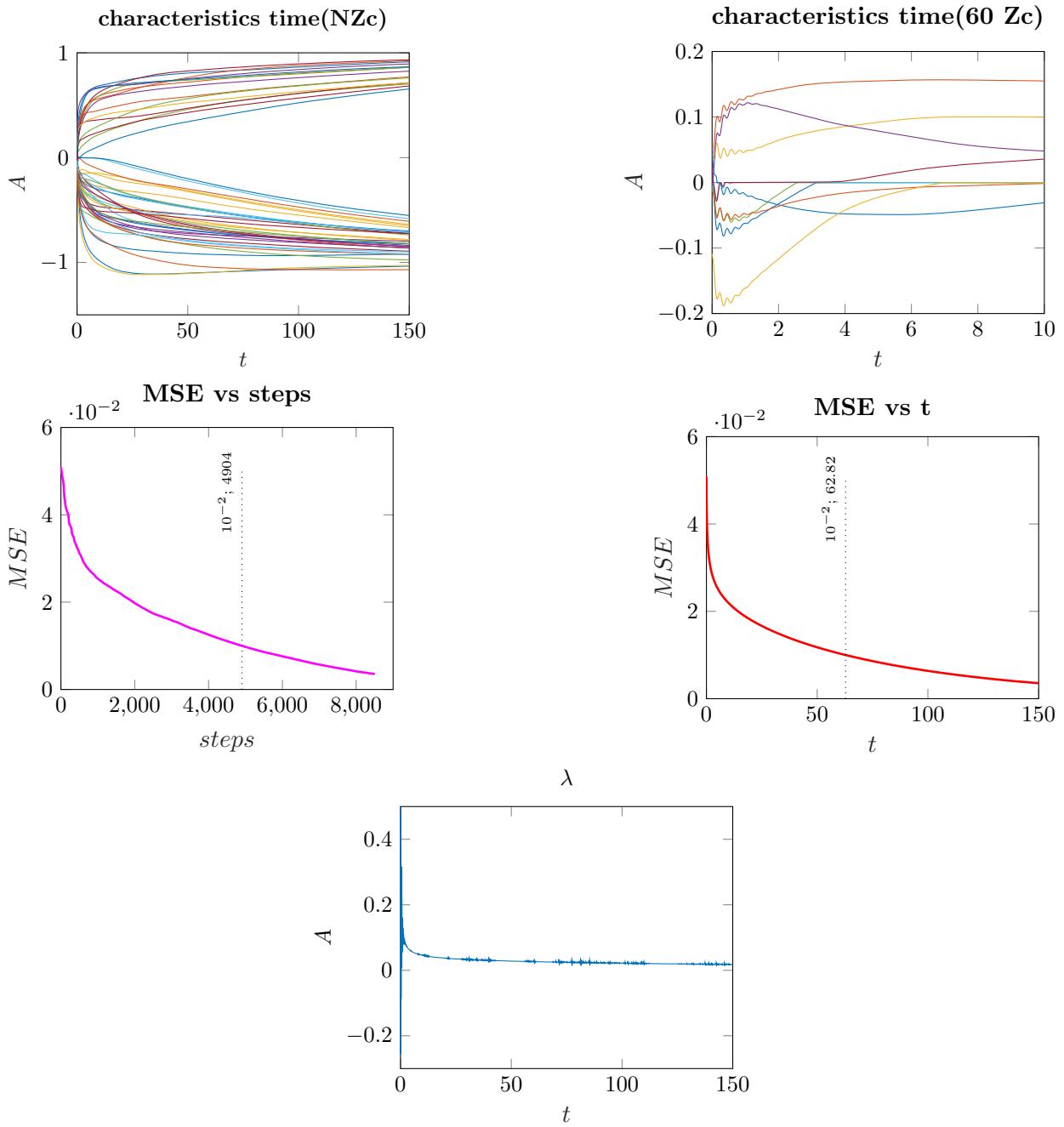
## 2.105 sim 4.51

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
5000	U	2.6738E - 02	00 : 46 : 58	150.00	3894	4.51
$A$	$Nz$	$\eta$	$m$	$n$	$\sigma$	
1	50	50	220	1024	0.0200	



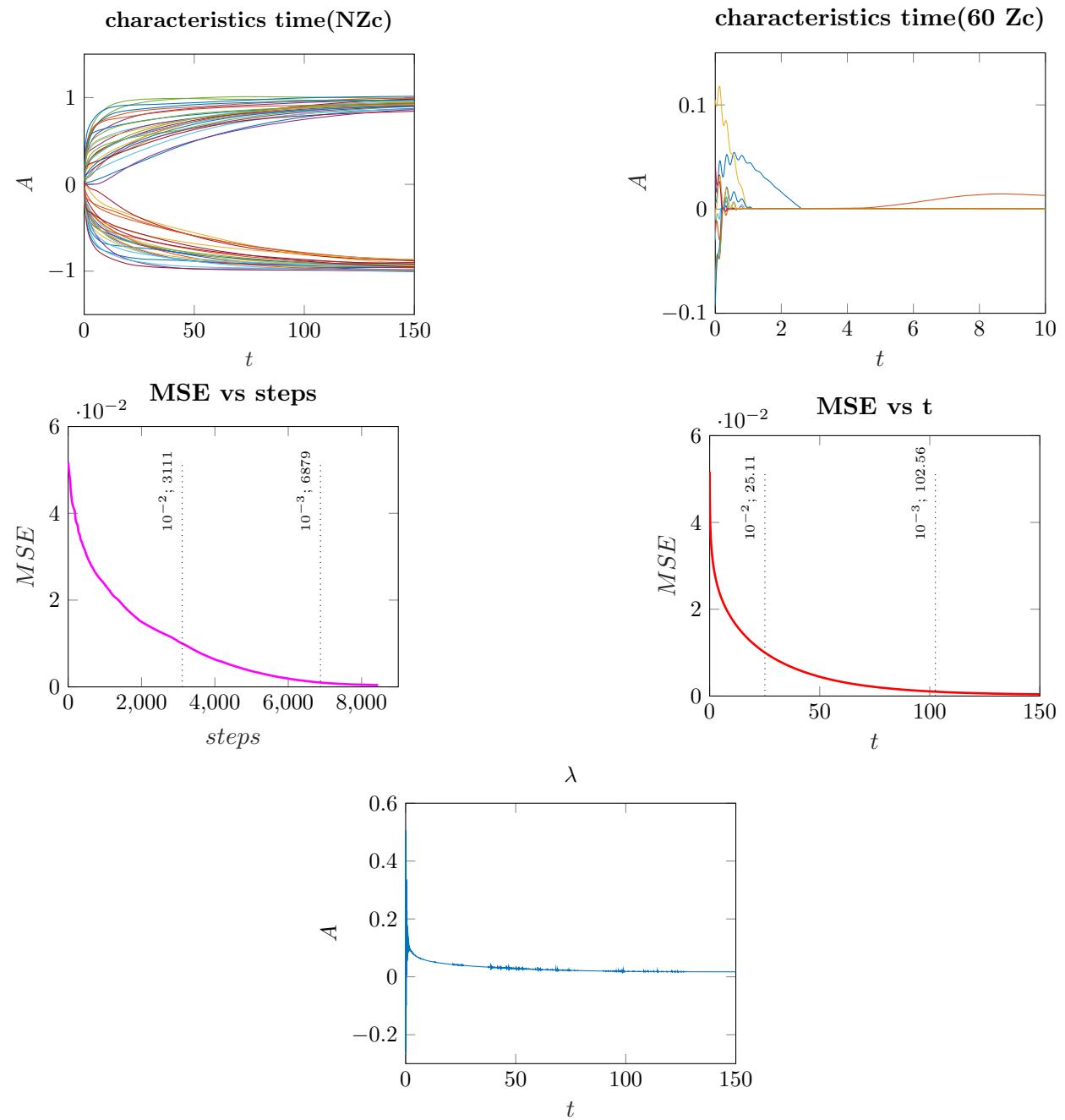
## 2.106 sim 4.52

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id			
5000	U	$3.5487E - 03$	01 : 40 : 01	150.00	8503	4.52			
				$A$	$Nz$	$\eta$	$m$	$n$	$\sigma$
				1	50	50	240	1024	0.0200



## 2.107 sim 4.53

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id
5000	U	$4.1397E - 04$	01 : 38 : 48	150.00	8449	4.53
				$A$	$Nz$	$\eta$
				1	50	50
					260	$m$
					1024	$n$
					0.0200	$\sigma$



## 2.108 sim 4.54

$k$	$\phi$	MSE	ExTime	$t_{max}$	steps	id			
5000	U	3.3131E - 03	01 : 25 : 05	150.00	7284	4.54			
				$A$	$Nz$	$\eta$	$m$	$n$	$\sigma$
				1	50	50	280	1024	0.0200

