n component = 10, n iter = 1000

RTV 300 mV Current 4

done fitting to HMM

Transition matrix

[[9.39385180e-001 4.09798581e-005 4.30690215e-002 0.00000000e+000

7.76633878e-039 1.25516894e-002 4.88404007e-065 1.06586692e-059

9.69499969e-004 3.98362920e-003]

[0.00000000e+000 9.77379969e-001 0.00000000e+000 0.00000000e+000

1.13049930e-038 1.35366295e-002 5.77551052e-139 0.00000000e+000

9.08340202e-003 8.53246566e-027]

[6.52100078e-002 1.17503089e-003 8.97785542e-001 0.00000000e+000

1.09410196e-024 1.35021235e-002 3.10174336e-004 1.70938227e-002

1.56476115e-003 3.35853780e-003]

[0.00000000e+000 0.00000000e+000 0.00000000e+000 9.90909091e-001

9.09090909e-003 5.52005273e-265 1.46115197e-123 0.00000000e+000

0.00000000e+000 6.58386967e-305]

[4.01836784e-015 2.78686884e-122 2.60467342e-063 4.98576021e-004

8.66478518e-001 1.00414560e-002 8.13728311e-002 2.75397427e-003

2.24673827e-003 3.66079062e-002]

[1.41526055e-001 2.05653154e-002 8.48816686e-002 3.75459751e-243

1.28188011e-001 4.55176516e-001 3.86494235e-002 1.61907841e-002

7.20688412e-003 1.07615343e-001]

[6.94764453e-085 1.83273847e-151 1.29111565e-095 4.42877990e-234

1.62226738e-001 7.85126688e-003 8.27569587e-001 5.85385080e-056

2.35240825e-003 7.80636067e-033]

[9.19870141e-004 3.31031876e-243 2.70516758e-002 0.00000000e+000

2.58017713e-003 3.02300849e-005 1.17372366e-050 9.62351834e-001

9.56645481e-004 6.10956778e-003]

[3.88180347e-016 3.50589611e-003 4.40134438e-003 0.00000000e+000

3.97487393e-003 1.41298203e-002 1.93233238e-026 3.30936650e-165

9.73988065e-001 1.61439169e-015]

[8.64806447e-003 1.06600134e-067 3.49532696e-003 1.65501110e-195

6.60365947e-002 1.87385012e-002 1.77506877e-007 4.78748182e-003

1.83651732e-015 8.98293853e-001]]

Means and Variance of each hidden state

0th hidden state

mean = [-5.56630182]

variance = [0.00034131]

1th hidden state

mean = [-4.45951171]

variance = [0.00293742]

2th hidden state

mean = [-5.59509116]

variance = [0.00044851]

3th hidden state

mean = [-3.36100879]

variance = [0.00170159]

4th hidden state

mean = [-5.4893471]

variance = [0.00046634]

5th hidden state

mean = [-5.3715456]

variance = [0.01669394]

6th hidden state

mean = [-5.44506059]

variance = [0.00105567]

7th hidden state

mean = [-5.64500066]

variance = [0.0011457]

8th hidden state

mean = [-4.98600434]

variance = [0.01774918]

9th hidden state

mean = [-5.52265932]

variance = [0.00051643]

Record of all hidden state

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

No. TIME Start - TIME End VALUE Hidden State {}th Time domain

0 800.02031 - 800.07038 -5.48934710386 4 0.05007

1 800.08045 - 800.12038 -5.44506058943 6 0.0399299999999

2 800.13038 - 800.13038 -5.48934710386 4 0.0

3 800.14033 - 800.17033 -5.52265932027 9 0.0300000000001

4 800.18038 - 800.18038 -5.37154560057 5 0.0

5 800.19033 - 800.21033 -5.48934710386 4 0.02

6 800.22033 - 800.64033 -5.64500065631 7 0.42

7 800.65033 - 800.66116 -5.52265932027 9 0.0108299999999

8 800.67033 - 800.70036 -5.37154560057 5 0.03003

9 800.71033 - 800.83037 -5.59509116343 2 0.12004

10 800.8746 - 800.8746 -5.37154560057 5 0.0

11 800.89957 - 801.23033 -5.64500065631 7 0.33076

12 801.24032 - 801.33037 -5.59509116343 2 0.09005

13 801.34035 - 801.37036 -5.44506058943 6 0.0300100000001

14 801.38098 - 801.39037 -5.48934710386 4 0.00938999999994

15 801.40032 - 801.43037 -5.52265932027 9 0.0300500000001

16 801.44037 - 801.45032 -5.37154560057 5 0.00995

17 801.46037 - 801.48037 -5.52265932027 9 0.02

18 801.49032 - 801.50037 -5.37154560057 5 0.01005

19 801.51032 - 801.51032 -4.45951171134 1 0.0

20 801.52037 - 801.52037 -5.37154560057 5 0.0

21 801.53032 - 801.66033 -5.52265932027 9 0.13001

22 801.67037 - 801.67037 -5.48934710386 4 0.0

23 801.68033 - 801.69789 -5.44506058943 6 0.01756

24 801.72954 - 801.77033 -5.48934710386 4 0.0407899999999

25 801.78031 - 801.78031 -5.37154560057 5 0.0

26 801.79037 - 801.87038 -5.48934710386 4 0.0800099999999

27 801.88033 - 801.88033 -5.44506058943 6 0.0

28 801.89033 - 801.93037 -5.48934710386 4 0.0400400000001

29 801.94038 - 802.00189 -5.44506058943 6 0.06151

30 802.01037 - 802.06032 -5.48934710386 4 0.0499500000001

31 802.07036 - 802.11032 -5.37154560057 5 0.03996

32 802.12032 - 802.25037 -5.52265932027 9 0.13005

33 802.26037 - 802.31037 -5.48934710386 4 0.0500000000001

34 802.32032 - 802.32032 -5.44506058943 6 0.0

35 802.33037 - 802.42031 -5.48934710386 4 0.08994

36 802.46327 - 802.46327 -4.98600434204 8 0.0

37 802.47033 - 802.48033 -5.37154560057 5 0.00999999999999

38 802.49037 - 802.51033 -5.52265932027 9 0.01996

39 802.52037 - 802.52037 -5.37154560057 5 0.0

40 802.53037 - 802.59032 -5.52265932027 9 0.0599500000001

41 802.60036 - 802.65037 -5.48934710386 4 0.0500099999999

42 802.66037 - 802.71037 -5.44506058943 6 0.0500000000001

43 802.72033 - 802.72033 -5.48934710386 4 0.0

44 802.73037 - 803.01031 -5.52265932027 9 0.27994

45 803.02031 - 803.49038 -5.64500065631 7 0.47007

46 803.50038 - 803.50038 -5.48934710386 4 0.0

47 803.51038 - 803.85038 -5.64500065631 7 0.34

48 803.86033 - 804.03038 -5.59509116343 2 0.17005

49 804.04038 - 804.63038 -5.64500065631 7 0.59

50 804.64032 - 804.75033 -5.59509116343 2 0.11001

51 804.76032 - 805.25037 -5.64500065631 7 0.49005

52 805.26032 - 805.39037 -5.59509116343 2 0.13005

53 805.40037 - 805.77033 -5.64500065631 7 0.36996

54 805.78036 - 805.91092 -5.59509116343 2 0.13056

55 805.92031 - 806.06036 -5.64500065631 7 0.14005

56 806.07038 - 806.18037 -5.59509116343 2 0.10999

57 806.19117 - 806.30032 -5.64500065631 7 0.10915

58 806.31037 - 806.36037 -5.59509116343 2 0.05

59 806.37032 - 806.43032 -5.56630181909 0 0.0600000000001

60 806.44117 - 806.44117 -5.37154560057 5 0.0

61 806.45037 - 806.47048 -5.59509116343 2 0.0201099999999

62 806.48037 - 806.52033 -5.64500065631 7 0.03996

63 806.53036 - 806.73032 -5.59509116343 2 0.19996

64 806.74037 - 807.49033 -5.64500065631 7 0.74996

65 807.50037 - 807.50037 -5.59509116343 2 0.0

66 807.5106 - 807.62033 -5.56630181909 0 0.10973

67 807.63036 - 807.65036 -5.59509116343 2 0.02

68 807.66106 - 807.93033 -5.64500065631 7 0.26927

69 807.94031 - 808.27038 -5.59509116343 2 0.33007

70 808.28036 - 810.15032 -5.64500065631 7 1.86996

71 810.16033 - 810.16033 -4.98600434204 8 0.0

72 810.17033 - 810.17033 -5.37154560057 5 0.0

73 810.18037 - 810.98037 -5.64500065631 7 0.8

74 810.99037 - 811.01037 -5.52265932027 9 0.02

75 811.02037 - 811.05033 -5.56630181909 0 0.0299600000001

76 811.06033 - 811.06033 -5.37154560057 5 0.0

77 811.07033 - 811.19122 -5.48934710386 4 0.12089

78 811.20032 - 811.33032 -5.52265932027 9 0.13

79 811.34037 - 811.42032 -5.48934710386 4 0.0799499999999

80 811.43033 - 811.51037 -5.52265932027 9 0.0800399999999

81 811.52037 - 811.53037 -5.48934710386 4 0.00999999999999

82 811.54033 - 811.57033 -5.52265932027 9 0.03

83 811.58037 - 811.58037 -5.37154560057 5 0.0

84 811.59037 - 811.76032 -5.52265932027 9 0.16995

85 811.77037 - 811.82037 -5.48934710386 4 0.0500000000001

86 811.83048 - 811.88033 -5.52265932027 9 0.04985

87 811.89033 - 811.95033 -5.48934710386 4 0.0600000000001

88 811.96033 - 812.29037 -5.64500065631 7 0.33004

89 812.30149 - 812.30149 -5.48934710386 4 0.0

90 812.31036 - 812.60037 -5.64500065631 7 0.29001

91 812.61037 - 812.63052 -5.48934710386 4 0.0201500000001

92 812.64037 - 812.64037 -5.44506058943 6 0.0

93 812.65032 - 812.80037 -5.48934710386 4 0.15005

94 812.81033 - 812.81033 -5.44506058943 6 0.0

95 812.82032 - 812.90033 -5.48934710386 4 0.08001

96 812.91037 - 812.94033 -5.44506058943 6 0.0299600000001

97 812.95032 - 812.99032 -5.48934710386 4 0.04

98 813.00037 - 813.07036 -5.52265932027 9 0.0699900000001

99 813.08037 - 813.17031 -5.48934710386 4 0.08994

100 813.18037 - 813.32037 -5.52265932027 9 0.14

101 813.33032 - 813.33032 -5.37154560057 5 0.0

102 813.34032 - 813.72052 -5.52265932027 9 0.3802

103 813.73037 - 813.82036 -5.56630181909 0 0.0899900000001

104 813.83037 - 814.11033 -5.52265932027 9 0.27996

105 814.12031 - 814.22036 -5.56630181909 0 0.10005

106 814.23033 - 814.23033 -5.37154560057 5 0.0

107 814.24036 - 814.38036 -5.56630181909 0 0.14

108 814.39038 - 814.40036 -5.37154560057 5 0.00997999999993

109 814.41096 - 814.62036 -5.56630181909 0 0.2094

110 814.63033 - 814.64036 -5.37154560057 5 0.01003

111 814.65033 - 814.75033 -5.56630181909 0 0.0999999999999

112 814.76037 - 814.76037 -5.37154560057 5 0.0

113 814.77033 - 814.87033 -5.56630181909 0 0.1

114 814.88032 - 815.07038 -5.52265932027 9 0.19006

115 815.08042 - 815.11033 -5.48934710386 4 0.02991

116 815.12032 - 815.17037 -5.64500065631 7 0.0500500000001

117 815.18032 - 815.18032 -5.59509116343 2 0.0

118 815.19037 - 815.75031 -5.56630181909 0 0.55994

119 815.76031 - 815.77035 -5.37154560057 5 0.01004

120 815.78031 - 815.90033 -5.56630181909 0 0.12002

121 815.91036 - 815.99036 -5.52265932027 9 0.08

122 816.00037 - 816.01032 -5.37154560057 5 0.00995

123 816.02032 - 816.08032 -5.52265932027 9 0.0600000000001

124 816.09032 - 816.09032 -5.37154560057 5 0.0

125 816.10037 - 816.13033 -5.52265932027 9 0.02996

126 816.14032 - 816.15032 -5.48934710386 4 0.00999999999999

127 816.161 - 816.22053 -5.52265932027 9 0.0595300000001

128 816.23033 - 816.39032 -5.48934710386 4 0.15999

129 816.40032 - 816.78035 -5.52265932027 9 0.38003

130 816.79036 - 816.82036 -5.56630181909 0 0.0300000000001

131 816.83056 - 816.92037 -5.52265932027 9 0.0898100000001

132 816.93032 - 816.93032 -5.37154560057 5 0.0

133 816.94032 - 817.11032 -5.52265932027 9 0.17

134 817.12032 - 817.12032 -5.48934710386 4 0.0

135 817.13032 - 817.13032 -5.44506058943 6 0.0

136 817.14032 - 817.18032 -5.48934710386 4 0.0400000000001

137 817.19032 - 817.21032 -5.37154560057 5 0.02

138 817.22036 - 817.25032 -5.48934710386 4 0.02996

139 817.26037 - 817.31032 -5.52265932027 9 0.0499500000001

140 817.32033 - 817.38037 -5.48934710386 4 0.06004

141 817.39036 - 817.39036 -5.37154560057 5 0.0

142 817.40033 - 817.48033 -5.48934710386 4 0.0799999999999

143 817.49037 - 817.61033 -5.52265932027 9 0.11996

144 817.62037 - 817.90037 -5.48934710386 4 0.28

145 817.91032 - 818.13037 -5.52265932027 9 0.22005

146 818.14036 - 818.16032 -5.48934710386 4 0.01996

147 818.17037 - 818.17037 -5.44506058943 6 0.0

148 818.18032 - 818.27033 -5.48934710386 4 0.0900099999999

149 818.28032 - 818.29038 -5.44506058943 6 0.0100600000001

150 818.30036 - 818.30036 -5.48934710386 4 0.0

151 818.31037 - 818.40032 -5.52265932027 9 0.0899499999999

152 818.41098 - 818.45033 -5.48934710386 4 0.03935

153 818.46032 - 818.48036 -5.44506058943 6 0.02004

154 818.49038 - 818.49038 -5.48934710386 4 0.0

155 818.50032 - 818.59036 -5.52265932027 9 0.09004

156 818.60033 - 818.60033 -5.48934710386 4 0.0

157 818.61036 - 818.61036 -4.98600434204 8 0.0

158 818.62033 - 818.62033 -5.37154560057 5 0.0

159 818.63032 - 818.67036 -5.52265932027 9 0.04004

160 818.68033 - 818.69119 -5.37154560057 5 0.01086

161 818.70037 - 818.77036 -5.52265932027 9 0.06999

162 818.78037 - 818.87036 -5.64500065631 7 0.0899900000001

163 818.88033 - 818.98033 -5.52265932027 9 0.1

164 818.99033 - 818.99033 -5.37154560057 5 0.0

165 819.00033 - 819.14036 -5.48934710386 4 0.14003

166 819.15037 - 819.15037 -5.44506058943 6 0.0

167 819.16102 - 819.18037 -5.48934710386 4 0.01935

168 819.19037 - 819.23032 -5.52265932027 9 0.03995

169 819.24037 - 819.29032 -5.48934710386 4 0.04995

170 819.30037 - 819.30037 -5.44506058943 6 0.0

171 819.31032 - 819.44042 -5.48934710386 4 0.1301

172 819.45032 - 819.46033 -5.44506058943 6 0.01001

173 819.47037 - 819.61032 -5.48934710386 4 0.13995

174 819.62038 - 819.62038 -5.44506058943 6 0.0

175 819.63032 - 819.72033 -5.48934710386 4 0.09001

176 819.73032 - 819.76033 -5.44506058943 6 0.0300099999999

177 819.77035 - 819.79032 -5.48934710386 4 0.0199699999999

178 819.80151 - 819.81037 -4.98600434204 8 0.00886000000003

179 819.82037 - 819.89033 -5.48934710386 4 0.0699599999999

180 819.90032 - 819.94043 -5.44506058943 6 0.04011

181 819.95032 - 819.95032 -5.48934710386 4 0.0

182 819.96032 - 819.96032 -5.37154560057 5 0.0

183 819.97052 - 819.97052 -4.45951171134 1 0.0

184 820.00478 - 820.03001 -4.98600434204 8 0.02523

185 820.04033 - 820.16102 -5.48934710386 4 0.12069

186 820.17037 - 820.34033 -5.52265932027 9 0.16996

187 820.35032 - 820.43033 -5.48934710386 4 0.08001

188 820.44041 - 820.45033 -5.44506058943 6 0.00991999999997

189 820.46038 - 820.77033 -5.48934710386 4 0.30995

190 820.78037 - 820.84033 -5.44506058943 6 0.05996

191 820.85033 - 820.96037 -5.48934710386 4 0.11004

192 820.97048 - 821.07037 -5.44506058943 6 0.0998900000001

193 821.08033 - 821.18031 -5.48934710386 4 0.09998

194 821.19041 - 821.25037 -4.98600434204 8 0.0599599999999

195 821.26032 - 821.26032 -5.37154560057 5 0.0

196 821.27032 - 821.32037 -5.48934710386 4 0.0500500000001

197 821.33037 - 821.54033 -5.52265932027 9 0.20996

198 821.55033 - 821.55033 -5.37154560057 5 0.0

199 821.56033 - 821.57033 -5.48934710386 4 0.00999999999999

200 821.58037 - 821.58037 -5.44506058943 6 0.0

201 821.59033 - 821.73033 -5.48934710386 4 0.14

202 821.74032 - 821.75037 -5.37154560057 5 0.01005

203 821.76037 - 821.87037 -5.48934710386 4 0.11

204 821.88031 - 821.88031 -5.37154560057 5 0.0

205 821.89033 - 822.29038 -5.48934710386 4 0.40005

206 822.30033 - 822.32033 -5.44506058943 6 0.02

207 822.33033 - 822.86033 -5.48934710386 4 0.53

208 822.87033 - 822.94041 -5.44506058943 6 0.0700800000001

209 822.95036 - 822.99037 -5.48934710386 4 0.0400099999999

210 823.00037 - 823.00037 -5.44506058943 6 0.0

211 823.01037 - 823.03037 -5.48934710386 4 0.02

212 823.04032 - 823.10033 -5.44506058943 6 0.06001

213 823.11033 - 823.18041 -5.48934710386 4 0.0700800000001

214 823.19041 - 823.72037 -5.44506058943 6 0.52996

215 823.73033 - 823.75033 -5.48934710386 4 0.02

216 823.76033 - 823.85033 -5.44506058943 6 0.09

217 823.86037 - 823.88037 -5.37154560057 5 0.02

218 823.89036 - 823.90031 -5.44506058943 6 0.00995

219 823.91097 - 823.98031 -5.48934710386 4 0.06934

220 823.99031 - 824.00035 -5.44506058943 6 0.01004

221 824.01036 - 824.02031 -5.48934710386 4 0.00995

222 824.03036 - 824.07031 -5.37154560057 5 0.03995

223 824.08033 - 824.24037 -5.44506058943 6 0.16004

224 824.25037 - 824.27037 -5.48934710386 4 0.02

225 824.28037 - 824.30033 -5.44506058943 6 0.0199600000001

226 824.31033 - 824.36037 -5.48934710386 4 0.05004

227 824.37037 - 824.50037 -5.44506058943 6 0.13

228 824.51037 - 824.52033 -5.48934710386 4 0.00995999999998

229 824.53033 - 824.56033 -5.52265932027 9 0.03

230 824.57041 - 824.59033 -5.37154560057 5 0.01992

231 824.60033 - 824.62037 -5.52265932027 9 0.02004

232 824.63037 - 824.67037 -5.48934710386 4 0.0400000000001

233 824.68037 - 824.68037 -5.44506058943 6 0.0

234 824.69041 - 824.85037 -5.48934710386 4 0.15996

235 824.86037 - 825.22037 -5.44506058943 6 0.36

236 825.23037 - 825.42036 -5.48934710386 4 0.18999

237 825.43032 - 825.51037 -5.44506058943 6 0.0800499999999

238 825.52037 - 825.57037 -5.48934710386 4 0.0500000000001

239 825.58037 - 825.64037 -5.44506058943 6 0.0599999999999

240 825.65056 - 825.68032 -5.48934710386 4 0.02976

241 825.69045 - 825.70037 -5.44506058943 6 0.00991999999997

242 825.71032 - 825.82037 -5.48934710386 4 0.11005

243 825.83032 - 826.00032 -5.44506058943 6 0.17

244 826.01032 - 826.15037 -5.48934710386 4 0.14005

245 826.16099 - 826.22037 -5.52265932027 9 0.05938

246 826.23037 - 826.23037 -5.37154560057 5 0.0

247 826.24032 - 826.28037 -5.48934710386 4 0.04005

248 826.29037 - 826.30032 -5.37154560057 5 0.00995

249 826.31032 - 826.36032 -5.52265932027 9 0.05

250 826.37032 - 826.42032 -5.48934710386 4 0.05

251 826.43037 - 826.43037 -5.44506058943 6 0.0

252 826.44041 - 826.56037 -5.48934710386 4 0.11996

253 826.57032 - 826.89032 -5.52265932027 9 0.32

254 826.90032 - 826.92036 -5.48934710386 4 0.02004

255 826.93032 - 827.01032 -5.52265932027 9 0.0799999999999

256 827.02037 - 827.06037 -5.48934710386 4 0.0400000000001

257 827.07032 - 827.30156 -5.52265932027 9 0.23124

258 827.31032 - 827.33043 -5.48934710386 4 0.0201099999999

259 827.34037 - 827.52032 -5.52265932027 9 0.17995

260 827.53032 - 827.64037 -5.48934710386 4 0.11005

261 827.65037 - 827.65037 -5.44506058943 6 0.0

262 827.66032 - 827.8016 -5.48934710386 4 0.14128

263 827.81036 - 828.23031 -5.52265932027 9 0.41995

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572 881.46032 - 881.51037 -5.64500065631 7 0.0500499999999

573 881.52081 - 881.61032 -5.59509116343 2 0.08951

574 881.62037 - 881.78032 -5.56630181909 0 0.15995

575 881.79037 - 881.99032 -5.59509116343 2 0.19995

576 882.00036 - 882.15032 -5.56630181909 0 0.14996

577 882.16132 - 882.38041 -5.59509116343 2 0.21909

578 882.39032 - 882.69037 -5.56630181909 0 0.30005

579 882.70037 - 882.84037 -5.59509116343 2 0.14

580 882.85032 - 883.10037 -5.56630181909 0 0.25005

581 883.11032 - 883.15037 -5.59509116343 2 0.04005

582 883.16135 - 883.27081 -5.56630181909 0 0.10946

583 883.28032 - 883.32037 -5.59509116343 2 0.0400500000001

584 883.33055 - 883.73037 -5.56630181909 0 0.39982

585 883.74032 - 883.84032 -5.59509116343 2 0.1

586 883.85037 - 884.16133 -5.56630181909 0 0.31096

587 884.17032 - 884.61032 -5.59509116343 2 0.44

588 884.62037 - 884.75037 -5.56630181909 0 0.13

589 884.76037 - 884.96036 -5.59509116343 2 0.19999

590 884.97032 - 885.21031 -5.56630181909 0 0.23999

591 885.22031 - 885.63037 -5.59509116343 2 0.41006

592 885.64037 - 885.64037 -5.37154560057 5 0.0

593 885.65032 - 886.97032 -5.56630181909 0 1.32

594 886.98037 - 886.99055 -5.59509116343 2 0.01018

595 887.00032 - 887.21037 -5.64500065631 7 0.21005

596 887.22032 - 887.24037 -5.59509116343 2 0.02005

597 887.25037 - 887.53032 -5.56630181909 0 0.27995

598 887.54037 - 887.57032 -5.52265932027 9 0.02995

599 887.58037 - 887.60037 -5.59509116343 2 0.02

600 887.61032 - 887.81037 -5.56630181909 0 0.20005

601 887.82037 - 887.91032 -5.59509116343 2 0.0899499999999

602 887.92032 - 888.14032 -5.56630181909 0 0.22

603 888.15032 - 888.16037 -5.59509116343 2 0.01005

604 888.17032 - 888.18037 -5.56630181909 0 0.0100500000001

605 888.19037 - 888.21032 -5.59509116343 2 0.01995

606 888.22037 - 888.40032 -5.64500065631 7 0.17995

607 888.41145 - 888.46037 -5.59509116343 2 0.0489200000001

608 888.47036 - 888.70036 -5.56630181909 0 0.23

609 888.71032 - 888.88032 -5.59509116343 2 0.17

610 888.89032 - 889.00036 -5.56630181909 0 0.11004

611 889.01037 - 889.01037 -5.37154560057 5 0.0

612 889.02086 - 889.14032 -5.56630181909 0 0.11946

613 889.15032 - 889.21032 -5.59509116343 2 0.0600000000001

614 889.22037 - 889.39032 -5.56630181909 0 0.16995

615 889.40036 - 889.43032 -5.59509116343 2 0.0299600000001

616 889.44032 - 889.50037 -5.56630181909 0 0.0600499999999

617 889.51037 - 889.60032 -5.59509116343 2 0.08995

618 889.61037 - 889.67037 -5.56630181909 0 0.0600000000001

619 889.68032 - 889.72036 -5.59509116343 2 0.04004

620 889.73037 - 889.76032 -5.56630181909 0 0.02995

621 889.77037 - 889.77037 -5.37154560057 5 0.0

622 889.78037 - 889.89032 -5.52265932027 9 0.10995

623 889.90032 - 890.04032 -5.56630181909 0 0.14

624 890.05032 - 890.08037 -5.59509116343 2 0.03005

625 890.09037 - 890.21037 -5.37154560057 5 0.12

626 890.22032 - 890.23037 -5.56630181909 0 0.01005

627 890.24037 - 890.25032 -5.37154560057 5 0.00995

628 890.26033 - 890.42032 -5.56630181909 0 0.15999

629 890.43037 - 890.43037 -5.37154560057 5 0.0

630 890.44032 - 890.55037 -5.56630181909 0 0.11005

631 890.56032 - 890.60037 -5.59509116343 2 0.04005

632 890.61037 - 891.24032 -5.56630181909 0 0.62995

633 891.25032 - 891.29032 -5.59509116343 2 0.04

634 891.30037 - 891.80031 -5.56630181909 0 0.49994

635 891.81031 - 891.95036 -5.59509116343 2 0.14005

636 891.96032 - 892.04037 -5.56630181909 0 0.08005

637 892.0511 - 892.08051 -5.59509116343 2 0.02941

638 892.09032 - 892.26032 -5.56630181909 0 0.17

639 892.27037 - 892.27037 -5.37154560057 5 0.0

640 892.28037 - 892.66037 -5.56630181909 0 0.38

641 892.67037 - 892.67037 -5.37154560057 5 0.0

642 892.68037 - 893.01032 -5.56630181909 0 0.32995

643 893.02032 - 893.02032 -5.37154560057 5 0.0

644 893.03037 - 893.48032 -5.56630181909 0 0.44995

645 893.49037 - 893.59037 -5.59509116343 2 0.1

646 893.60037 - 893.65032 -5.56630181909 0 0.04995

647 893.66037 - 893.80113 -5.59509116343 2 0.14076

648 893.81037 - 894.15033 -5.56630181909 0 0.33996

649 894.16037 - 894.20032 -4.98600434204 8 0.0399500000001

650 894.21033 - 894.21033 -5.37154560057 5 0.0

651 894.22037 - 894.35033 -5.56630181909 0 0.12996

652 894.36031 - 894.57036 -5.59509116343 2 0.21005

653 894.58033 - 894.66141 -5.56630181909 0 0.08108

654 894.67031 - 894.67031 -5.37154560057 5 0.0

655 894.68033 - 894.90032 -5.56630181909 0 0.21999

656 894.91137 - 894.93033 -5.59509116343 2 0.01896

657 894.94037 - 894.94037 -5.37154560057 5 0.0

658 894.95032 - 895.02091 -5.59509116343 2 0.0705899999999

659 895.03032 - 895.06037 -5.56630181909 0 0.0300500000001

660 895.07033 - 895.09037 -5.37154560057 5 0.02004

661 895.10032 - 896.19037 -5.56630181909 0 1.09005

662 896.20032 - 896.21037 -5.37154560057 5 0.01005

663 896.22037 - 896.63032 -5.56630181909 0 0.40995

664 896.64032 - 896.75032 -5.59509116343 2 0.11

665 896.76037 - 896.77032 -5.37154560057 5 0.00995

666 896.78036 - 896.85032 -5.59509116343 2 0.06996

667 896.86037 - 896.90033 -5.56630181909 0 0.0399600000001

668 896.91032 - 896.95037 -5.59509116343 2 0.0400500000001

669 896.96033 - 897.18037 -5.56630181909 0 0.22004

670 897.19045 - 897.19045 -5.37154560057 5 0.0

671 897.20032 - 897.32037 -5.56630181909 0 0.12005

672 897.33032 - 897.33032 -5.37154560057 5 0.0

673 897.34037 - 897.37032 -5.56630181909 0 0.02995

674 897.38037 - 897.50031 -5.59509116343 2 0.11994

675 897.51033 - 897.89033 -5.64500065631 7 0.38

676 897.90036 - 897.90036 -5.59509116343 2 0.0

677 897.91037 - 897.91037 -5.37154560057 5 0.0

678 897.92032 - 897.93032 -5.59509116343 2 0.0100000000001

679 897.94039 - 897.94039 -5.37154560057 5 0.0

680 897.95037 - 897.95037 -4.45951171134 1 0.0

681 897.96037 - 897.99032 -5.37154560057 5 0.02995

682 898.00033 - 898.24037 -5.59509116343 2 0.24004

683 898.25032 - 898.27036 -5.52265932027 9 0.02004

684 898.28033 - 898.33036 -5.59509116343 2 0.05003

685 898.34037 - 898.46038 -5.64500065631 7 0.12001

686 898.47036 - 898.56037 -5.59509116343 2 0.09001

687 898.5706 - 898.60033 -5.52265932027 9 0.02973

688 898.61032 - 898.86037 -5.59509116343 2 0.25005

689 898.87032 - 898.87032 -5.37154560057 5 0.0

690 898.88042 - 898.91138 -5.59509116343 2 0.0309600000001

691 898.92032 - 898.94043 -5.37154560057 5 0.02011

692 898.95032 - 899.23037 -5.59509116343 2 0.28005

693 899.24037 - 899.40037 -5.56630181909 0 0.16

694 899.41142 - 899.53037 -5.59509116343 2 0.11895

695 899.54037 - 899.62036 -5.52265932027 9 0.07999

696 899.63036 - 899.64036 -5.37154560057 5 0.00999999999999

697 899.65083 - 899.70032 -5.52265932027 9 0.04949

Means and total domain of each hidden state

---------------------------------------

0th hidden state

total number with this hidden state = 85

mean = [-5.56630182]

total time\_domain = 20.73006

1th hidden state

total number with this hidden state = 8

mean = [-4.45951171]

total time\_domain = 3.60025

2th hidden state

total number with this hidden state = 92

mean = [-5.59509116]

total time\_domain = 12.0194

3th hidden state

total number with this hidden state = 1

mean = [-3.36100879]

total time\_domain = 1.2075

4th hidden state

total number with this hidden state = 182

mean = [-5.4893471]

total time\_domain = 19.24292

5th hidden state

total number with this hidden state = 94

mean = [-5.3715456]

total time\_domain = 0.78931

6th hidden state

total number with this hidden state = 114

mean = [-5.44506059]

total time\_domain = 7.89185

7th hidden state

total number with this hidden state = 28

mean = [-5.64500066]

total time\_domain = 10.14863

8th hidden state

total number with this hidden state = 16

mean = [-4.98600434]

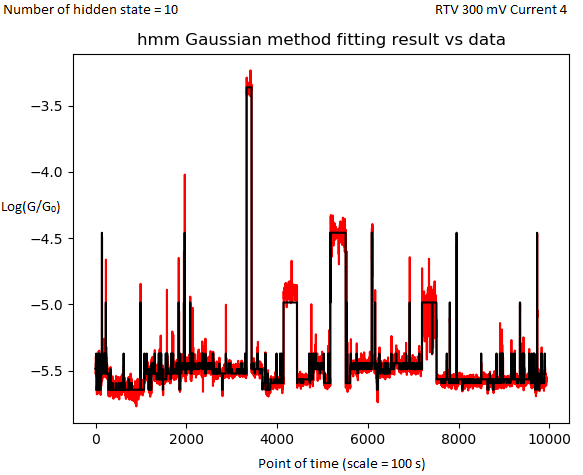
total time\_domain = 6.28423

9th hidden state

total number with this hidden state = 78

mean = [-5.52265932]

total time\_domain = 10.63145



n component = 3, n iter = 1000

77K 300 mV Current 2

done fitting to HMM

Transition matrix

[[9.84258974e-01 9.52471955e-04 1.47885545e-02]

[6.38811011e-03 9.88946812e-01 4.66507797e-03]

[5.08590317e-02 3.70692946e-03 9.45434039e-01]]

Means and Variance of each hidden state

0th hidden state

mean = [-6.23154044]

variance = [0.01820434]

1th hidden state

mean = [-3.98523656]

variance = [0.03632792]

2th hidden state

mean = [-5.70412243]

variance = [0.0686542]

Record of all hidden state

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

No. TIME Start - TIME End VALUE Hidden State {}th Time domain

0 100.02037 - 100.15036 -6.23154043723 0 0.12999

1 100.16032 - 100.44033 -5.70412242908 2 0.28001

2 100.45036 - 100.53055 -6.23154043723 0 0.08019

3 100.54037 - 100.62033 -5.70412242908 2 0.07996

4 100.63032 - 100.89032 -6.23154043723 0 0.26

5 100.90037 - 100.99032 -5.70412242908 2 0.08995

6 101.00033 - 103.08032 -6.23154043723 0 2.07999

7 103.09039 - 103.11036 -5.70412242908 2 0.01997

8 103.12032 - 104.02032 -6.23154043723 0 0.9

9 104.03032 - 104.05033 -5.70412242908 2 0.02001

10 104.06129 - 104.98037 -6.23154043723 0 0.91908

11 104.99037 - 105.00037 -5.70412242908 2 0.01

12 105.01037 - 105.38037 -6.23154043723 0 0.37

13 105.39037 - 105.56038 -5.70412242908 2 0.17001

14 105.57038 - 105.64081 -6.23154043723 0 0.07043

15 105.65033 - 105.70038 -5.70412242908 2 0.05005

16 105.71038 - 106.89033 -6.23154043723 0 1.17995

17 106.90035 - 107.27033 -5.70412242908 2 0.36998

18 107.28038 - 107.32038 -6.23154043723 0 0.04

19 107.33033 - 108.12038 -5.70412242908 2 0.79005

20 108.13037 - 108.19037 -6.23154043723 0 0.06

21 108.20033 - 108.54032 -5.70412242908 2 0.33999

22 108.55038 - 108.63038 -6.23154043723 0 0.08

23 108.64032 - 109.00037 -5.70412242908 2 0.36005

24 109.01033 - 109.22032 -6.23154043723 0 0.20999

25 109.23059 - 109.96037 -5.70412242908 2 0.72978

26 109.97033 - 110.82032 -6.23154043723 0 0.84999

27 110.83037 - 110.96032 -5.70412242908 2 0.12995

28 110.97038 - 111.89033 -6.23154043723 0 0.91995

29 111.90035 - 111.94033 -5.70412242908 2 0.03998

30 111.95174 - 112.64032 -6.23154043723 0 0.68858

31 112.65033 - 112.65033 -5.70412242908 2 0.0

32 112.66037 - 113.08033 -6.23154043723 0 0.41996

33 113.09037 - 113.11032 -5.70412242908 2 0.01995

34 113.12033 - 114.22033 -6.23154043723 0 1.1

35 114.23037 - 114.25032 -5.70412242908 2 0.01995

36 114.26038 - 114.47033 -6.23154043723 0 0.20995

37 114.48054 - 115.03031 -5.70412242908 2 0.54977

38 115.04038 - 115.11032 -6.23154043723 0 0.06994

39 115.12033 - 115.17032 -5.70412242908 2 0.04999

40 115.18033 - 115.25036 -6.23154043723 0 0.07003

41 115.26033 - 115.49033 -5.70412242908 2 0.23

42 115.50032 - 115.60032 -6.23154043723 0 0.1

43 115.61038 - 115.82032 -5.70412242908 2 0.20994

44 115.83033 - 115.95037 -6.23154043723 0 0.12004

45 115.96037 - 116.02033 -5.70412242908 2 0.05996

46 116.03037 - 116.61032 -6.23154043723 0 0.57995

47 116.62037 - 116.70178 -5.70412242908 2 0.08141

48 116.73447 - 117.16064 -3.98523655546 1 0.42617

49 117.1876 - 117.35037 -6.23154043723 0 0.16277

50 117.36037 - 117.37036 -5.70412242908 2 0.00999

51 117.38032 - 117.75032 -6.23154043723 0 0.37

52 117.79614 - 119.02064 -3.98523655546 1 1.2245

53 119.04526 - 119.26037 -6.23154043723 0 0.21511

54 119.27037 - 119.27037 -5.70412242908 2 0.0

55 119.30219 - 119.31185 -3.98523655546 1 0.00966000000001

56 119.36961 - 119.56125 -6.23154043723 0 0.19164

57 119.60467 - 119.61069 -3.98523655546 1 0.00602000000001

58 119.63753 - 119.80037 -5.70412242908 2 0.16284

59 119.81037 - 119.98032 -6.23154043723 0 0.16995

60 120.01762 - 124.0007 -3.98523655546 1 3.98308

61 124.02755 - 124.15033 -6.23154043723 0 0.12278

62 124.16033 - 124.16033 -5.70412242908 2 0.0

63 124.19051 - 124.26064 -3.98523655546 1 0.07013

64 124.28956 - 124.28956 -5.70412242908 2 0.0

65 124.30037 - 124.41033 -6.23154043723 0 0.10996

66 124.42033 - 124.48027 -5.70412242908 2 0.05994

67 124.51034 - 125.04031 -6.23154043723 0 0.52997

68 125.07373 - 128.59069 -3.98523655546 1 3.51696

69 128.61956 - 128.64033 -6.23154043723 0 0.02077

70 128.65033 - 128.72037 -5.70412242908 2 0.07004

71 128.73055 - 128.87032 -6.23154043723 0 0.13977

72 128.88037 - 129.02037 -5.70412242908 2 0.14

73 129.03056 - 129.06037 -6.23154043723 0 0.02981

74 129.07032 - 129.07032 -5.70412242908 2 0.0

75 129.10139 - 129.14065 -3.98523655546 1 0.03926

76 129.16527 - 129.19033 -6.23154043723 0 0.02506

77 129.20174 - 129.21033 -5.70412242908 2 0.00859

78 129.22033 - 129.77037 -6.23154043723 0 0.55004

79 129.78032 - 129.80037 -5.70412242908 2 0.02005

80 129.81036 - 130.50033 -6.23154043723 0 0.68997

81 130.51036 - 130.53036 -5.70412242908 2 0.02

82 130.54037 - 130.86033 -6.23154043723 0 0.31996

83 130.87036 - 130.89032 -5.70412242908 2 0.01996

84 130.90037 - 131.23036 -6.23154043723 0 0.32999

85 131.24033 - 131.28033 -5.70412242908 2 0.04

86 131.29036 - 131.81132 -6.23154043723 0 0.52096

87 131.82032 - 131.91037 -5.70412242908 2 0.09005

88 131.92037 - 131.99037 -6.23154043723 0 0.07

89 132.025 - 134.1907 -3.98523655546 1 2.1657

90 134.2175 - 134.63037 -6.23154043723 0 0.41287

91 134.64037 - 134.80033 -5.70412242908 2 0.15996

92 134.81135 - 134.90033 -6.23154043723 0 0.08898

93 134.91033 - 134.92037 -5.70412242908 2 0.01004

94 134.93038 - 135.46038 -6.23154043723 0 0.53

95 135.47038 - 135.47038 -3.98523655546 1 0.0

96 135.48056 - 135.61038 -6.23154043723 0 0.12982

97 135.62033 - 135.65035 -5.70412242908 2 0.03002

98 135.66037 - 135.78462 -6.23154043723 0 0.12425

99 135.80523 - 135.8404 -5.70412242908 2 0.03517

100 135.85033 - 136.02032 -6.23154043723 0 0.16999

101 136.05207 - 136.06185 -3.98523655546 1 0.00978000000001

102 136.09535 - 136.13037 -6.23154043723 0 0.03502

103 136.14037 - 136.14037 -5.70412242908 2 0.0

104 136.15033 - 138.50037 -6.23154043723 0 2.35004

105 138.51037 - 138.51037 -5.70412242908 2 0.0

106 138.52037 - 138.91037 -6.23154043723 0 0.39

107 138.92037 - 138.94037 -5.70412242908 2 0.02

108 138.95037 - 139.65032 -6.23154043723 0 0.69995

109 139.66033 - 140.11032 -5.70412242908 2 0.44999

110 140.12037 - 140.73037 -6.23154043723 0 0.61

111 140.74033 - 140.92037 -5.70412242908 2 0.18004

112 140.93037 - 142.26037 -6.23154043723 0 1.33

113 142.27036 - 142.46036 -5.70412242908 2 0.19

114 142.47032 - 143.48037 -6.23154043723 0 1.01005

115 143.49037 - 143.51032 -5.70412242908 2 0.01995

116 143.52032 - 150.31131 -6.23154043723 0 6.79099

117 150.32036 - 150.40037 -5.70412242908 2 0.08001

118 150.41037 - 150.93032 -6.23154043723 0 0.51995

119 150.94036 - 150.94036 -5.70412242908 2 0.0

120 150.95032 - 151.56032 -6.23154043723 0 0.61

121 151.57036 - 151.57036 -5.70412242908 2 0.0

122 151.58032 - 151.61032 -6.23154043723 0 0.03

123 151.62032 - 154.26033 -5.70412242908 2 2.64001

124 154.27037 - 154.30033 -6.23154043723 0 0.02996

125 154.3113 - 154.32037 -5.70412242908 2 0.00907000000001

126 154.33032 - 154.49037 -6.23154043723 0 0.16005

127 154.50032 - 155.75033 -5.70412242908 2 1.25001

128 155.76032 - 155.78032 -6.23154043723 0 0.02

129 155.79037 - 157.62033 -5.70412242908 2 1.82996

130 157.63038 - 157.70037 -6.23154043723 0 0.06999

131 157.71033 - 159.80037 -5.70412242908 2 2.09004

132 159.81037 - 159.87036 -6.23154043723 0 0.05999

133 159.88036 - 160.95037 -5.70412242908 2 1.07001

134 160.96032 - 161.09048 -6.23154043723 0 0.13016

135 161.10037 - 161.58032 -5.70412242908 2 0.47995

136 161.59048 - 161.63037 -6.23154043723 0 0.03989

137 161.64047 - 162.01037 -5.70412242908 2 0.3699

138 162.02037 - 166.32037 -6.23154043723 0 4.3

139 166.33033 - 166.55032 -5.70412242908 2 0.21999

140 166.56032 - 166.74037 -6.23154043723 0 0.18005

141 166.75037 - 166.77037 -5.70412242908 2 0.02

142 166.78032 - 167.72032 -6.23154043723 0 0.94

143 167.73051 - 167.75037 -5.70412242908 2 0.01986

144 167.76032 - 168.60037 -6.23154043723 0 0.84005

145 168.61033 - 168.71031 -5.70412242908 2 0.09998

146 168.72037 - 171.38033 -6.23154043723 0 2.65996

147 171.39032 - 171.64032 -5.70412242908 2 0.25

148 171.65036 - 172.78033 -6.23154043723 0 1.12997

149 172.79033 - 172.79033 -5.70412242908 2 0.0

150 172.80045 - 172.93033 -6.23154043723 0 0.12988

151 172.94033 - 173.05033 -5.70412242908 2 0.11

152 173.06033 - 173.14033 -6.23154043723 0 0.08

153 173.15037 - 173.25033 -5.70412242908 2 0.09996

154 173.26033 - 173.94037 -6.23154043723 0 0.68004

155 173.95037 - 174.02033 -5.70412242908 2 0.06996

156 174.03037 - 175.91033 -6.23154043723 0 1.87996

157 175.92033 - 176.34043 -5.70412242908 2 0.4201

158 176.35033 - 176.91032 -6.23154043723 0 0.55999

159 176.92037 - 176.93032 -5.70412242908 2 0.00995

160 176.94032 - 180.43032 -6.23154043723 0 3.49

161 180.44037 - 180.44037 -5.70412242908 2 0.0

162 180.45115 - 181.57062 -6.23154043723 0 1.11947

163 181.58036 - 181.58036 -5.70412242908 2 0.0

164 181.59037 - 182.04037 -6.23154043723 0 0.45

165 182.05037 - 182.05037 -5.70412242908 2 0.0

166 182.0946 - 182.60065 -3.98523655546 1 0.50605

167 182.62589 - 182.72033 -5.70412242908 2 0.09444

168 182.7647 - 183.22324 -3.98523655546 1 0.45854

169 183.24527 - 183.28033 -5.70412242908 2 0.03506

170 183.29037 - 183.42112 -3.98523655546 1 0.13075

171 183.4469 - 184.62032 -6.23154043723 0 1.17342

172 184.63037 - 184.64031 -5.70412242908 2 0.00994

173 184.65032 - 186.67033 -6.23154043723 0 2.02001

174 186.68037 - 186.74037 -5.70412242908 2 0.06

175 186.75037 - 187.28037 -6.23154043723 0 0.53

176 187.29032 - 187.30037 -5.70412242908 2 0.01005

177 187.31032 - 188.4208 -6.23154043723 0 1.11048

178 188.43037 - 188.53061 -5.70412242908 2 0.10024

179 188.54032 - 188.67036 -6.23154043723 0 0.13004

180 188.68033 - 188.70109 -5.70412242908 2 0.02076

181 188.71032 - 188.89032 -6.23154043723 0 0.18

182 188.90037 - 189.02037 -5.70412242908 2 0.12

183 189.03032 - 189.47032 -6.23154043723 0 0.44

184 189.48057 - 189.50033 -5.70412242908 2 0.01976

185 189.51036 - 190.66044 -6.23154043723 0 1.15008

186 190.67033 - 190.73038 -5.70412242908 2 0.06005

187 190.74037 - 191.48033 -6.23154043723 0 0.73996

188 191.49037 - 191.52037 -5.70412242908 2 0.03

189 191.53033 - 193.22037 -6.23154043723 0 1.69004

190 193.23033 - 193.23033 -5.70412242908 2 0.0

191 193.24033 - 193.50033 -6.23154043723 0 0.26

192 193.51037 - 193.53037 -5.70412242908 2 0.02

193 193.54037 - 194.59041 -6.23154043723 0 1.05004

194 194.60037 - 194.60037 -5.70412242908 2 0.0

Means and total domain of each hidden state

---------------------------------------

0th hidden state

total number with this hidden state = 92

mean = [-6.23154044]

total time\_domain = 61.33191

1th hidden state

total number with this hidden state = 14

mean = [-3.98523656]

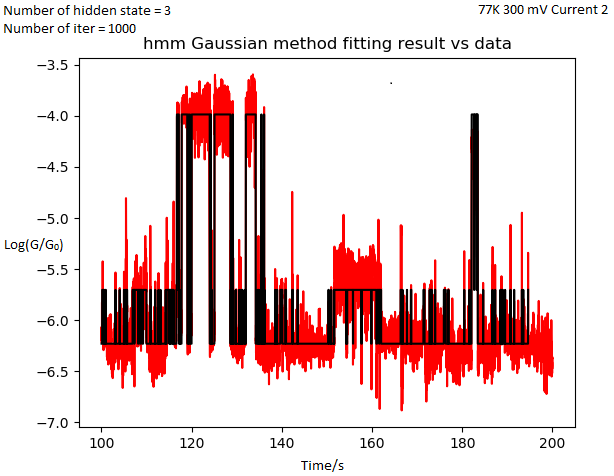
total time\_domain = 12.5466

2th hidden state

total number with this hidden state = 89

mean = [-5.70412243]

total time\_domain = 18.1564



n component = 2, n iter = 1000

77K 300 mV Current 12

done fitting to HMM

Transition matrix

[[0.99198401 0.00801599]

[0.04110234 0.95889766]]

Means and Variance of each hidden state

0th hidden state

mean = [-6.18205162]

variance = [0.00948708]

1th hidden state

mean = [-5.51393428]

variance = [0.00940223]

Record of all hidden state

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

No. TIME Start - TIME End VALUE Hidden State {}th Time domain

0 240.02031 - 241.30037 -6.18205161707 0 1.28006

1 241.31056 - 241.32037 -5.51393427519 1 0.00980999999999

2 241.33037 - 241.35037 -6.18205161707 0 0.02

3 241.36037 - 241.37033 -5.51393427519 1 0.00996000000001

4 241.38037 - 242.64037 -6.18205161707 0 1.26

5 242.65037 - 242.65037 -5.51393427519 1 0.0

6 242.66032 - 247.91037 -6.18205161707 0 5.25005

7 247.92041 - 247.94032 -5.51393427519 1 0.01991

8 247.95031 - 247.95031 -6.18205161707 0 0.0

9 247.96032 - 247.99032 -5.51393427519 1 0.03

10 248.00037 - 249.45033 -6.18205161707 0 1.44996

11 249.46033 - 249.47037 -5.51393427519 1 0.01004

12 249.48033 - 253.28036 -6.18205161707 0 3.80003

13 253.29031 - 254.19032 -5.51393427519 1 0.90001

14 254.20033 - 254.29032 -6.18205161707 0 0.08999

15 254.30056 - 255.75036 -5.51393427519 1 1.4498

16 255.76037 - 255.77032 -6.18205161707 0 0.00995

17 255.78033 - 256.79036 -5.51393427519 1 1.01003

18 256.80033 - 256.85032 -6.18205161707 0 0.04999

19 256.86033 - 256.99032 -5.51393427519 1 0.12999

20 257.00099 - 257.02037 -6.18205161707 0 0.01938

21 257.03032 - 257.93032 -5.51393427519 1 0.9

22 257.94037 - 257.95036 -6.18205161707 0 0.00999000000002

23 257.96037 - 257.98037 -5.51393427519 1 0.02

24 257.99037 - 260.24032 -6.18205161707 0 2.24995

25 260.25032 - 260.32032 -5.51393427519 1 0.07

26 260.33032 - 260.39032 -6.18205161707 0 0.06

27 260.40037 - 260.40037 -5.51393427519 1 0.0

28 260.41037 - 265.78036 -6.18205161707 0 5.36999

29 265.79036 - 265.80032 -5.51393427519 1 0.00995999999998

30 265.81032 - 265.83037 -6.18205161707 0 0.02005

31 265.84031 - 265.88032 -5.51393427519 1 0.04001

32 265.89037 - 267.58032 -6.18205161707 0 1.68995

33 267.59032 - 267.60037 -5.51393427519 1 0.01005

34 267.61032 - 267.88032 -6.18205161707 0 0.27

35 267.89032 - 267.90037 -5.51393427519 1 0.01005

36 267.91037 - 267.92042 -6.18205161707 0 0.01005

37 267.93037 - 267.99032 -5.51393427519 1 0.05995

38 268.00072 - 269.92042 -6.18205161707 0 1.9197

39 269.93031 - 269.94032 -5.51393427519 1 0.01001

Means and total domain of each hidden state

---------------------------------------

0th hidden state

total number with this hidden state = 20

mean = [-6.18205162]

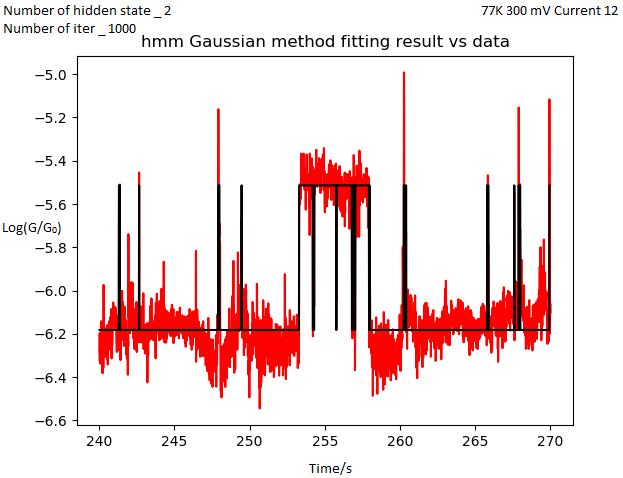
total time\_domain = 24.82909

1th hidden state

total number with this hidden state = 20

mean = [-5.51393428]

total time\_domain = 4.69958



n component = 5, n iter = 1000

90K 300 mV Current 8

done fitting to HMM

Transition matrix

[[9.43022723e-001 4.92160033e-004 8.35356543e-163 3.24565279e-002

2.40285895e-002]

[1.65867910e-007 9.78862979e-001 6.33080334e-047 1.36057844e-003

1.97762770e-002]

[0.00000000e+000 3.37861866e-003 9.96621381e-001 0.00000000e+000

0.00000000e+000]

[3.62972076e-002 5.19379943e-004 4.63398767e-229 9.59640303e-001

3.54310969e-003]

[6.62833331e-002 1.60197443e-002 6.98258882e-004 5.99907607e-003

9.10999588e-001]]

Means and Variance of each hidden state

0th hidden state

mean = [-6.39413291]

variance = [0.00404005]

1th hidden state

mean = [-4.87883693]

variance = [0.09427533]

2th hidden state

mean = [-4.11191427]

variance = [0.00883348]

3th hidden state

mean = [-6.516828]

variance = [0.00666725]

4th hidden state

mean = [-6.23494008]

variance = [0.01686104]

Record of all hidden state

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

No. TIME Start - TIME End VALUE Hidden State {}th Time domain

0 0.05037 - 0.05037 -6.23494008057 4 0.0

1 0.06037 - 0.72037 -6.39413290865 0 0.66

2 0.73032 - 0.76037 -6.23494008057 4 0.03005

3 0.77037 - 1.06033 -6.39413290865 0 0.28996

4 1.07037 - 1.13037 -6.23494008057 4 0.06

5 1.14037 - 1.30037 -6.39413290865 0 0.16

6 1.31033 - 1.55109 -6.51682800213 3 0.24076

7 1.56037 - 1.68037 -6.39413290865 0 0.12

8 1.69037 - 2.02037 -6.51682800213 3 0.33

9 2.03037 - 2.29033 -6.39413290865 0 0.25996

10 2.30037 - 2.54033 -6.51682800213 3 0.23996

11 2.55107 - 2.59031 -6.39413290865 0 0.03924

12 2.60037 - 2.77037 -6.51682800213 3 0.17

13 2.78037 - 3.12041 -6.39413290865 0 0.34004

14 3.13037 - 4.45036 -6.23494008057 4 1.31999

15 4.46037 - 4.54033 -6.39413290865 0 0.07996

16 4.55032 - 4.63082 -6.23494008057 4 0.0805

17 4.64036 - 4.68037 -6.39413290865 0 0.04001

18 4.69037 - 4.95032 -6.23494008057 4 0.25995

19 4.96033 - 5.09037 -6.39413290865 0 0.13004

20 5.10037 - 5.98032 -6.23494008057 4 0.87995

21 5.99037 - 5.99037 -4.87883693404 1 0.0

22 6.00036 - 6.43037 -6.23494008057 4 0.43001

23 6.44037 - 6.49032 -6.39413290865 0 0.04995

24 6.50037 - 7.10033 -6.23494008057 4 0.59996

25 7.11032 - 7.27032 -6.39413290865 0 0.16

26 7.28032 - 7.77042 -6.23494008057 4 0.4901

27 7.78032 - 8.03038 -6.39413290865 0 0.25006

28 8.04037 - 8.08036 -6.23494008057 4 0.03999

29 8.09032 - 8.70033 -6.39413290865 0 0.61001

30 8.71032 - 8.87031 -6.23494008057 4 0.15999

31 8.88032 - 9.10032 -6.39413290865 0 0.22

32 9.11037 - 9.17033 -6.23494008057 4 0.05996

33 9.18037 - 9.37033 -6.39413290865 0 0.18996

34 9.38036 - 9.41033 -6.23494008057 4 0.02997

35 9.42036 - 9.63041 -6.39413290865 0 0.21005

36 9.64031 - 10.40033 -6.23494008057 4 0.76002

37 10.41037 - 10.51036 -6.39413290865 0 0.09999

38 10.52033 - 10.85033 -6.23494008057 4 0.33

39 10.86037 - 10.87032 -4.87883693404 1 0.00995

40 10.88037 - 11.66032 -6.23494008057 4 0.77995

41 11.67037 - 12.11036 -6.39413290865 0 0.43999

42 12.12032 - 12.12032 -6.23494008057 4 0.0

43 12.13037 - 12.36037 -6.39413290865 0 0.23

44 12.37032 - 12.52036 -6.23494008057 4 0.15004

45 12.53032 - 14.02037 -6.39413290865 0 1.49005

46 14.03036 - 14.08041 -6.51682800213 3 0.05005

47 14.09032 - 14.17032 -6.39413290865 0 0.08

48 14.18037 - 14.29037 -6.51682800213 3 0.11

49 14.30037 - 14.51037 -6.39413290865 0 0.21

50 14.52037 - 14.57033 -6.51682800213 3 0.04996

51 14.58032 - 14.64036 -6.23494008057 4 0.06004

52 14.65078 - 14.67033 -4.87883693404 1 0.01955

53 14.68036 - 14.82037 -6.23494008057 4 0.14001

54 14.83033 - 14.86032 -6.39413290865 0 0.02999

55 14.87037 - 15.51032 -6.51682800213 3 0.63995

56 15.52032 - 16.08032 -6.39413290865 0 0.56

57 16.09037 - 16.14036 -6.51682800213 3 0.04999

58 16.15037 - 16.30037 -6.39413290865 0 0.15

59 16.31037 - 16.36036 -6.51682800213 3 0.04999

60 16.37033 - 16.69037 -6.39413290865 0 0.32004

61 16.70037 - 16.79033 -6.23494008057 4 0.08996

62 16.80106 - 17.74032 -6.39413290865 0 0.93926

63 17.75033 - 17.76037 -4.87883693404 1 0.01004

64 17.77033 - 17.77033 -6.23494008057 4 0.0

65 17.78032 - 17.89033 -4.87883693404 1 0.11001

66 17.90032 - 17.92032 -6.23494008057 4 0.02

67 17.93033 - 17.94037 -4.87883693404 1 0.01004

68 17.95037 - 18.12038 -6.23494008057 4 0.17001

69 18.13037 - 18.33032 -6.39413290865 0 0.19995

70 18.34037 - 18.51037 -6.23494008057 4 0.17

71 18.52032 - 18.65033 -6.39413290865 0 0.13001

72 18.66052 - 18.72032 -6.23494008057 4 0.0598

73 18.73038 - 19.08032 -6.39413290865 0 0.34994

74 19.09033 - 19.67032 -6.23494008057 4 0.57999

75 19.68036 - 19.88077 -6.39413290865 0 0.20041

76 19.89033 - 20.07036 -6.23494008057 4 0.18003

77 20.08037 - 20.20037 -6.39413290865 0 0.12

78 20.21037 - 20.28033 -6.51682800213 3 0.06996

79 20.29032 - 20.29032 -4.87883693404 1 0.0

80 20.30111 - 20.30111 -6.23494008057 4 0.0

81 20.31036 - 20.38033 -6.51682800213 3 0.06997

82 20.39036 - 20.48033 -6.23494008057 4 0.08997

83 20.49036 - 20.54037 -6.39413290865 0 0.05001

84 20.55032 - 20.60033 -6.23494008057 4 0.05001

85 20.61036 - 20.69169 -6.39413290865 0 0.08133

86 20.70033 - 20.94168 -6.51682800213 3 0.24135

87 20.95031 - 21.27033 -6.39413290865 0 0.32002

88 21.28032 - 21.34036 -6.51682800213 3 0.06004

89 21.35037 - 21.50037 -6.39413290865 0 0.15

90 21.51036 - 21.56032 -6.23494008057 4 0.04996

91 21.57037 - 22.10045 -6.39413290865 0 0.53008

92 22.11037 - 22.17036 -6.23494008057 4 0.05999

93 22.18032 - 22.28036 -6.39413290865 0 0.10004

94 22.29032 - 22.31037 -6.51682800213 3 0.02005

95 22.32032 - 22.76033 -6.39413290865 0 0.44001

96 22.77032 - 22.8304 -6.23494008057 4 0.06008

97 22.84037 - 23.15036 -6.39413290865 0 0.30999

98 23.16053 - 23.17033 -6.23494008057 4 0.0098

99 23.18032 - 23.26032 -6.39413290865 0 0.08

100 23.27037 - 23.29033 -6.23494008057 4 0.01996

101 23.30036 - 23.38032 -6.39413290865 0 0.07996

102 23.39032 - 23.78037 -6.23494008057 4 0.39005

103 23.79037 - 24.36032 -6.39413290865 0 0.56995

104 24.37032 - 24.40032 -6.51682800213 3 0.03

105 24.41032 - 25.27037 -6.39413290865 0 0.86005

106 25.28032 - 25.36032 -6.51682800213 3 0.08

107 25.37044 - 25.52037 -6.39413290865 0 0.14993

108 25.53036 - 25.67032 -6.51682800213 3 0.13996

109 25.68037 - 25.99032 -6.39413290865 0 0.30995

110 26.00032 - 26.45033 -6.51682800213 3 0.45001

111 26.46032 - 26.64037 -6.39413290865 0 0.18005

112 26.65037 - 26.69168 -6.23494008057 4 0.04131

113 26.70036 - 26.74032 -6.39413290865 0 0.03996

114 26.75037 - 26.80114 -6.51682800213 3 0.05077

115 26.81033 - 27.72033 -6.39413290865 0 0.91

116 27.73032 - 27.73032 -6.23494008057 4 0.0

117 27.74037 - 27.85036 -6.39413290865 0 0.10999

118 27.86032 - 27.95032 -6.51682800213 3 0.09

119 27.96038 - 28.12037 -6.39413290865 0 0.15999

120 28.13058 - 28.47032 -6.51682800213 3 0.33974

121 28.48037 - 28.67032 -6.39413290865 0 0.18995

122 28.68032 - 29.29036 -6.51682800213 3 0.61004

123 29.30037 - 29.42033 -6.39413290865 0 0.11996

124 29.43032 - 29.90037 -6.51682800213 3 0.47005

125 29.91037 - 30.21033 -6.39413290865 0 0.29996

126 30.22032 - 30.96032 -6.51682800213 3 0.74

127 30.97046 - 32.01037 -6.39413290865 0 1.03991

128 32.02032 - 32.09033 -6.51682800213 3 0.07001

129 32.10036 - 32.39032 -6.39413290865 0 0.28996

130 32.40037 - 32.46037 -6.51682800213 3 0.06

131 32.47033 - 34.05036 -6.39413290865 0 1.58003

132 34.06032 - 34.26037 -6.51682800213 3 0.20005

133 34.27032 - 34.82032 -6.39413290865 0 0.55

134 34.83037 - 34.95032 -6.51682800213 3 0.11995

135 34.96032 - 35.97032 -6.39413290865 0 1.01

136 35.98032 - 36.01032 -6.23494008057 4 0.03

137 36.02032 - 36.47032 -6.39413290865 0 0.45

138 36.48032 - 36.75032 -6.51682800213 3 0.27

139 36.76031 - 36.91054 -6.39413290865 0 0.15023

140 36.92032 - 36.97032 -6.51682800213 3 0.05

141 36.98037 - 37.6606 -6.39413290865 0 0.68023

142 37.67036 - 38.32037 -6.51682800213 3 0.65001

143 38.33039 - 38.79037 -6.39413290865 0 0.45998

144 38.80037 - 38.91059 -6.51682800213 3 0.11022

145 38.92037 - 39.01032 -6.39413290865 0 0.08995

146 39.02032 - 39.10037 -6.51682800213 3 0.08005

147 39.11037 - 39.29032 -6.39413290865 0 0.17995

148 39.30113 - 39.44169 -6.51682800213 3 0.14056

149 39.45037 - 39.57037 -6.39413290865 0 0.12

150 39.5804 - 39.97032 -6.51682800213 3 0.38992

151 39.98032 - 40.84032 -6.39413290865 0 0.86

152 40.85037 - 40.94174 -6.23494008057 4 0.09137

153 40.95032 - 41.28032 -6.39413290865 0 0.33

154 41.29032 - 41.37032 -6.51682800213 3 0.08

155 41.38032 - 41.85037 -6.39413290865 0 0.47005

156 41.86032 - 42.75032 -6.51682800213 3 0.89

157 42.76037 - 42.93033 -6.39413290865 0 0.16996

158 42.94169 - 43.02054 -6.51682800213 3 0.07885

159 43.03037 - 43.15037 -6.39413290865 0 0.12

160 43.16037 - 43.58037 -6.51682800213 3 0.42

161 43.59033 - 44.04033 -6.39413290865 0 0.45

162 44.05033 - 46.56038 -6.51682800213 3 2.51005

163 46.57033 - 46.75038 -6.39413290865 0 0.18005

164 46.76038 - 47.37038 -6.51682800213 3 0.61

165 47.38038 - 47.76033 -6.39413290865 0 0.37995

166 47.77036 - 47.92033 -6.51682800213 3 0.14997

167 47.93032 - 48.21038 -6.39413290865 0 0.28006

168 48.22039 - 51.12038 -6.51682800213 3 2.89999

169 51.13036 - 51.31036 -6.39413290865 0 0.18

170 51.32033 - 51.62033 -6.51682800213 3 0.3

171 51.63032 - 51.76033 -6.39413290865 0 0.13001

172 51.77036 - 53.37037 -6.51682800213 3 1.60001

173 53.38032 - 53.40032 -6.23494008057 4 0.02

174 53.41037 - 53.50031 -6.39413290865 0 0.08994

175 53.51033 - 53.77037 -6.51682800213 3 0.26004

176 53.78032 - 53.79037 -6.23494008057 4 0.01005

177 53.80114 - 53.80114 -4.87883693404 1 0.0

178 53.81037 - 53.81037 -6.23494008057 4 0.0

179 53.82032 - 53.89033 -6.39413290865 0 0.07001

180 53.90032 - 54.00032 -6.23494008057 4 0.1

181 54.01036 - 54.02036 -4.87883693404 1 0.01

182 54.03037 - 54.08037 -6.23494008057 4 0.05

183 54.09032 - 54.10037 -6.39413290865 0 0.01005

184 54.11037 - 54.41032 -6.51682800213 3 0.29995

185 54.42032 - 54.53037 -6.39413290865 0 0.11005

186 54.54037 - 54.62032 -6.51682800213 3 0.07995

187 54.63037 - 55.27032 -6.39413290865 0 0.63995

188 55.28036 - 55.35032 -6.23494008057 4 0.06996

189 55.36036 - 55.42031 -6.39413290865 0 0.05995

190 55.43032 - 55.51037 -6.23494008057 4 0.08005

191 55.52036 - 55.5804 -6.39413290865 0 0.06004

192 55.59033 - 55.60032 -6.23494008057 4 0.00999

193 55.61037 - 55.65032 -6.39413290865 0 0.03995

194 55.66055 - 55.73037 -6.23494008057 4 0.06982

195 55.74037 - 55.82032 -6.39413290865 0 0.07995

196 55.83046 - 56.07032 -6.23494008057 4 0.23986

197 56.08037 - 56.13037 -6.39413290865 0 0.05

198 56.14032 - 56.21032 -6.23494008057 4 0.07

199 56.22046 - 56.39037 -6.51682800213 3 0.16991

200 56.40032 - 56.44032 -6.39413290865 0 0.04

201 56.45032 - 56.59032 -6.23494008057 4 0.14

202 56.60032 - 56.60032 -6.39413290865 0 0.0

203 56.61037 - 56.63036 -6.51682800213 3 0.01999

204 56.64032 - 56.66037 -6.39413290865 0 0.02005

205 56.67036 - 56.67036 -6.23494008057 4 0.0

206 56.68037 - 56.81037 -6.51682800213 3 0.13

207 56.82037 - 56.85032 -6.39413290865 0 0.02995

208 56.86032 - 57.02032 -6.23494008057 4 0.16

209 57.03037 - 57.24037 -6.51682800213 3 0.21

210 57.25032 - 57.33046 -6.39413290865 0 0.08014

211 57.34036 - 57.56032 -6.51682800213 3 0.21996

212 57.57038 - 57.58037 -6.23494008057 4 0.00999

213 57.59037 - 57.61032 -6.39413290865 0 0.01995

214 57.62033 - 57.70033 -6.51682800213 3 0.08

215 57.71033 - 57.75032 -4.87883693404 1 0.03999

216 57.76033 - 57.81033 -6.23494008057 4 0.05

217 57.82037 - 57.86036 -6.39413290865 0 0.03999

218 57.87032 - 58.04032 -6.23494008057 4 0.17

219 58.05116 - 58.22032 -6.39413290865 0 0.16916

220 58.23033 - 58.31037 -6.51682800213 3 0.08004

221 58.32032 - 58.48032 -6.39413290865 0 0.16

222 58.49033 - 58.64037 -6.51682800213 3 0.15004

223 58.65037 - 58.86037 -6.39413290865 0 0.21

224 58.87036 - 59.01031 -6.51682800213 3 0.13995

225 59.02032 - 59.03032 -6.23494008057 4 0.01

226 59.04037 - 59.13033 -6.39413290865 0 0.08996

227 59.14036 - 59.24032 -6.51682800213 3 0.09996

228 59.25037 - 59.36032 -6.39413290865 0 0.10995

229 59.37033 - 59.42031 -6.51682800213 3 0.04998

230 59.43032 - 59.44168 -6.39413290865 0 0.01136

231 59.45032 - 59.47032 -6.23494008057 4 0.02

232 59.48032 - 59.54037 -6.51682800213 3 0.06005

233 59.55032 - 59.64032 -6.39413290865 0 0.09

234 59.65032 - 59.82037 -6.23494008057 4 0.17005

235 59.8304 - 60.35033 -6.39413290865 0 0.51993

236 60.36033 - 60.37033 -6.51682800213 3 0.01

237 60.38037 - 60.89033 -6.39413290865 0 0.50996

238 60.90032 - 61.39036 -6.23494008057 4 0.49004

239 61.40032 - 61.63037 -6.39413290865 0 0.23005

240 61.64032 - 61.70036 -6.51682800213 3 0.06004

241 61.71032 - 61.77032 -6.23494008057 4 0.06

242 61.78037 - 61.95032 -6.39413290865 0 0.16995

243 61.96037 - 62.11037 -6.23494008057 4 0.15

244 62.12037 - 62.13036 -6.39413290865 0 0.00999

245 62.14033 - 64.67037 -6.51682800213 3 2.53004

246 64.68037 - 64.70037 -6.23494008057 4 0.02

247 64.71037 - 66.31036 -6.51682800213 3 1.59999

248 66.32033 - 66.52032 -6.39413290865 0 0.19999

249 66.53037 - 66.66032 -6.51682800213 3 0.12995

250 66.67033 - 67.20036 -6.39413290865 0 0.53003

251 67.21037 - 67.26032 -6.51682800213 3 0.04995

252 67.27037 - 67.35033 -6.39413290865 0 0.07996

253 67.36032 - 67.81037 -6.51682800213 3 0.45005

254 67.82036 - 67.90036 -6.39413290865 0 0.08

255 67.91031 - 67.91031 -6.23494008057 4 0.0

256 67.92032 - 67.92032 -4.87883693404 1 0.0

257 67.93032 - 67.9417 -6.23494008057 4 0.01138

258 67.95031 - 68.09036 -6.39413290865 0 0.14005

259 68.10033 - 68.61032 -6.51682800213 3 0.50999

260 68.62036 - 68.71037 -6.23494008057 4 0.09001

261 68.72032 - 69.13037 -6.39413290865 0 0.41005

262 69.14036 - 69.28032 -6.51682800213 3 0.13996

263 69.29033 - 69.48032 -6.39413290865 0 0.18999

264 69.49033 - 69.57033 -6.51682800213 3 0.08

265 69.58036 - 70.18037 -6.39413290865 0 0.60001

266 70.19033 - 70.21037 -6.23494008057 4 0.02004

267 70.22037 - 70.28031 -6.39413290865 0 0.05994

268 70.29033 - 70.32032 -6.23494008057 4 0.02999

269 70.33037 - 70.33037 -4.87883693404 1 0.0

270 70.34036 - 70.34036 -6.23494008057 4 0.0

271 70.35037 - 70.46036 -6.39413290865 0 0.10999

272 70.47036 - 70.57032 -6.23494008057 4 0.09996

273 70.58048 - 70.59032 -6.39413290865 0 0.00984000000001

274 70.60033 - 70.66037 -6.51682800213 3 0.06004

275 70.67036 - 70.73037 -6.39413290865 0 0.06001

276 70.74032 - 70.84037 -4.87883693404 1 0.10005

277 70.85032 - 70.90032 -6.23494008057 4 0.05

278 70.91059 - 70.93032 -4.87883693404 1 0.01973

279 70.94032 - 71.22037 -6.23494008057 4 0.28005

280 71.23036 - 71.26033 -6.51682800213 3 0.02997

281 71.27032 - 71.29032 -6.39413290865 0 0.02

282 71.30123 - 71.31031 -6.23494008057 4 0.00908

283 71.32037 - 71.39033 -6.39413290865 0 0.06996

284 71.40032 - 72.24033 -6.51682800213 3 0.84001

285 72.25033 - 72.26031 -6.23494008057 4 0.00998

286 72.27032 - 72.3011 -6.39413290865 0 0.03078

287 72.31037 - 73.06037 -6.51682800213 3 0.75

288 73.07037 - 73.26037 -6.39413290865 0 0.19

289 73.27037 - 73.38032 -6.51682800213 3 0.10995

290 73.39033 - 73.67037 -6.39413290865 0 0.28004

291 73.68046 - 73.84032 -6.23494008057 4 0.15986

292 73.85032 - 74.08041 -6.39413290865 0 0.23009

293 74.09032 - 74.49037 -6.23494008057 4 0.40005

294 74.50037 - 75.73036 -6.39413290865 0 1.22999

295 75.74033 - 75.75036 -6.23494008057 4 0.01003

296 75.76038 - 75.80033 -4.87883693404 1 0.03995

297 75.81031 - 75.81031 -6.23494008057 4 0.0

298 75.82033 - 75.82033 -4.87883693404 1 0.0

299 75.83032 - 75.88037 -6.23494008057 4 0.05005

300 75.89031 - 75.90033 -4.87883693404 1 0.01002

301 75.91059 - 75.92038 -6.23494008057 4 0.00979

302 75.93036 - 78.71045 -4.87883693404 1 2.78009

303 78.72033 - 78.75033 -6.23494008057 4 0.03

304 78.76037 - 80.12032 -4.87883693404 1 1.35995

305 80.13033 - 80.19172 -6.23494008057 4 0.06139

306 80.20036 - 80.26031 -4.87883693404 1 0.05995

307 80.27076 - 80.27076 -6.23494008057 4 0.0

308 80.28033 - 88.45038 -4.87883693404 1 8.17005

309 88.46037 - 88.51032 -6.23494008057 4 0.04995

310 88.52055 - 88.53033 -4.87883693404 1 0.00978000000001

311 88.54045 - 88.59033 -6.23494008057 4 0.04988

312 88.60036 - 88.75033 -6.39413290865 0 0.14997

313 88.76036 - 88.84032 -6.23494008057 4 0.07996

314 88.85033 - 88.85033 -4.87883693404 1 0.0

315 88.86036 - 88.90031 -6.23494008057 4 0.03995

316 88.9447 - 91.95069 -4.11191426596 2 3.00599

317 91.96208 - 92.00533 -4.87883693404 1 0.04325

318 92.01037 - 92.05037 -6.23494008057 4 0.04

319 92.06036 - 92.11037 -4.87883693404 1 0.05001

320 92.12037 - 92.27033 -6.23494008057 4 0.14996

321 92.28032 - 92.30113 -4.87883693404 1 0.02081

322 92.31033 - 92.62037 -6.51682800213 3 0.31004

323 92.63036 - 92.70032 -6.39413290865 0 0.06996

324 92.71032 - 92.95036 -6.51682800213 3 0.24004

325 92.96033 - 93.09031 -6.23494008057 4 0.12998

326 93.10038 - 93.17036 -6.39413290865 0 0.06998

327 93.18037 - 93.37036 -6.51682800213 3 0.18999

328 93.38038 - 93.39036 -6.23494008057 4 0.00998

329 93.40038 - 93.40038 -4.87883693404 1 0.0

330 93.41036 - 93.42033 -6.23494008057 4 0.00997000000001

331 93.43031 - 93.44172 -6.39413290865 0 0.01141

332 93.45036 - 95.97037 -6.51682800213 3 2.52001

333 95.98032 - 96.11033 -6.39413290865 0 0.13001

334 96.12033 - 96.34037 -6.51682800213 3 0.22004

335 96.35037 - 96.54032 -6.39413290865 0 0.18995

336 96.55037 - 96.59037 -6.51682800213 3 0.04

337 96.6004 - 96.73038 -6.39413290865 0 0.12998

338 96.74032 - 96.79033 -6.23494008057 4 0.05001

339 96.80111 - 96.83049 -6.39413290865 0 0.02938

340 96.84032 - 96.96032 -6.51682800213 3 0.12

341 96.97037 - 96.98037 -6.23494008057 4 0.00999999999999

342 96.99056 - 97.00037 -6.39413290865 0 0.00981

343 97.01037 - 97.99037 -6.51682800213 3 0.98

344 98.00032 - 98.38037 -6.39413290865 0 0.38005

345 98.39032 - 98.60037 -6.23494008057 4 0.21005

346 98.61037 - 99.22032 -6.39413290865 0 0.60995

347 99.23037 - 99.37033 -6.23494008057 4 0.13996

348 99.38032 - 99.38032 -4.87883693404 1 0.0

349 99.39033 - 99.47049 -6.51682800213 3 0.08016

350 99.48032 - 99.66036 -6.39413290865 0 0.18004

351 99.67038 - 99.76032 -6.51682800213 3 0.08994

352 99.77037 - 99.90033 -6.39413290865 0 0.12996

Means and total domain of each hidden state

---------------------------------------

0th hidden state

total number with this hidden state = 139

mean = [-6.39413291]

total time\_domain = 35.88182

1th hidden state

total number with this hidden state = 28

mean = [-4.87883693]

total time\_domain = 12.87322

2th hidden state

total number with this hidden state = 1

mean = [-4.11191427]

total time\_domain = 3.00599

3th hidden state

total number with this hidden state = 86

mean = [-6.516828]

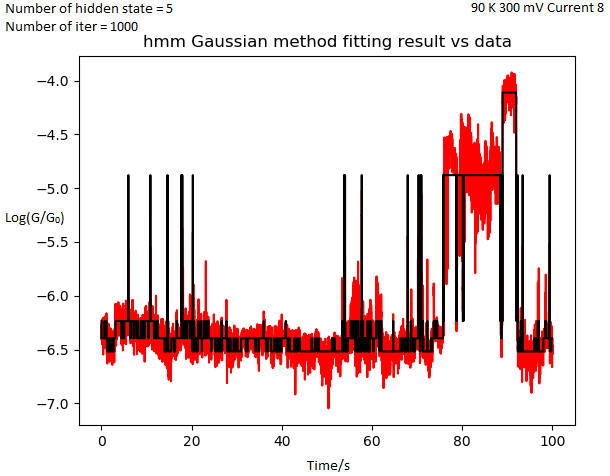
total time\_domain = 31.26222

4th hidden state

total number with this hidden state = 99

mean = [-6.23494008]

total time\_domain = 13.28389



n component = 2, n iter = 1000

90K 300 mV Current 10 (0 – 27s)

done fitting to HMM

Transition matrix

[[0.99265541 0.00734459]

[0.00441439 0.99558561]]

Means and Variance of each hidden state

0th hidden state

mean = [-4.73273568]

variance = [0.05718628]

1th hidden state

mean = [-5.86982027]

variance = [0.01494534]

Record of all hidden state

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

No. TIME Start - TIME End VALUE Hidden State {}th Time domain

0 0.05037 - 8.69033 -5.8698202658 1 8.63996

1 8.70037 - 13.87037 -4.73273568229 0 5.17

2 13.88032 - 19.47032 -5.8698202658 1 5.59

3 19.48032 - 20.64037 -4.73273568229 0 1.16005

4 20.65032 - 20.67032 -5.8698202658 1 0.02

5 20.68032 - 20.71037 -4.73273568229 0 0.03005

6 20.72037 - 23.26037 -5.8698202658 1 2.54

7 23.27032 - 26.15032 -4.73273568229 0 2.88

8 26.16032 - 26.68031 -5.8698202658 1 0.51999

9 26.69036 - 26.69036 -4.73273568229 0 0.0

10 26.70033 - 26.71032 -5.8698202658 1 0.00999

11 26.72037 - 26.73032 -4.73273568229 0 0.00995

12 26.74032 - 26.90037 -5.8698202658 1 0.16005

Means and total domain of each hidden state

---------------------------------------

0th hidden state

total number with this hidden state = 6

mean = [-4.73273568]

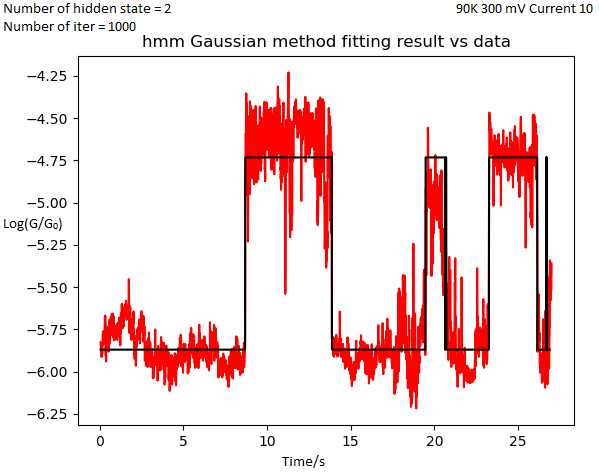
total time\_domain = 9.25005

1th hidden state

total number with this hidden state = 7

mean = [-5.86982027]

total time\_domain = 17.47999

****

n component = 4, n iter = 1000

90K 300 mV Current 10 (70s 80s)

done fitting to HMM

Transition matrix

[[0.9142483 0.00517937 0.07632991 0.00424242]

[0.00330541 0.80892274 0.1229646 0.06480725]

[0.06238439 0.05475621 0.87899284 0.00386655]

[0.02086921 0.07502821 0.02136816 0.88273443]]

Means and Variance of each hidden state

0th hidden state

mean = [-6.0147808]

variance = [0.0029044]

1th hidden state

mean = [-5.83528593]

variance = [0.00402111]

2th hidden state

mean = [-5.94593201]

variance = [0.00159304]

3th hidden state

mean = [-5.43914128]

variance = [0.05837712]

Record of all hidden state

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

No. TIME Start - TIME End VALUE Hidden State {}th Time domain

0 70.01032 - 70.15032 -5.94593201356 2 0.14

1 70.16046 - 70.19032 -5.83528593028 1 0.02986

2 70.20037 - 70.31052 -5.94593201356 2 0.11015

3 70.32033 - 70.39037 -6.01478080144 0 0.07004

4 70.40037 - 70.61032 -5.94593201356 2 0.20995

5 70.62032 - 70.63032 -5.83528593028 1 0.00999999999999

6 70.64032 - 70.68032 -5.43914127941 3 0.04

7 70.69032 - 70.70032 -5.83528593028 1 0.01

8 70.71037 - 70.85032 -5.43914127941 3 0.13995

9 70.86037 - 70.90033 -5.83528593028 1 0.03996

10 70.91036 - 70.93032 -5.43914127941 3 0.01996

11 70.94057 - 71.00033 -5.94593201356 2 0.05976

12 71.01032 - 71.02033 -5.83528593028 1 0.01001

13 71.03036 - 71.03036 -5.43914127941 3 0.0

14 71.04033 - 71.07036 -5.83528593028 1 0.03003

15 71.08032 - 71.20032 -5.94593201356 2 0.12

16 71.21032 - 71.22032 -5.83528593028 1 0.01

17 71.23032 - 72.22038 -5.94593201356 2 0.99006

18 72.23038 - 72.29038 -5.83528593028 1 0.06

19 72.30036 - 72.37033 -5.94593201356 2 0.06997

20 72.38036 - 72.60036 -6.01478080144 0 0.22

21 72.61058 - 72.64038 -5.94593201356 2 0.0298

22 72.65036 - 72.66033 -5.83528593028 1 0.00997

23 72.67033 - 72.89145 -5.94593201356 2 0.22112

24 72.90033 - 72.93038 -6.01478080144 0 0.03005

25 72.94038 - 73.21038 -5.94593201356 2 0.27

26 73.22038 - 73.25038 -5.83528593028 1 0.03

27 73.26033 - 73.37031 -5.94593201356 2 0.10998

28 73.38037 - 73.52033 -5.83528593028 1 0.13996

29 73.53032 - 73.57036 -5.94593201356 2 0.04004

30 73.58033 - 73.69036 -5.83528593028 1 0.11003

31 73.70033 - 73.71036 -5.94593201356 2 0.01003

32 73.72046 - 73.77032 -5.83528593028 1 0.04986

33 73.78115 - 73.78115 -5.94593201356 2 0.0

34 73.79032 - 74.07037 -6.01478080144 0 0.28005

35 74.08037 - 74.09037 -5.94593201356 2 0.00999999999999

36 74.10033 - 74.11033 -5.83528593028 1 0.01

37 74.12033 - 74.14033 -5.94593201356 2 0.02

38 74.15033 - 74.21037 -6.01478080144 0 0.06004

39 74.22033 - 74.36033 -5.94593201356 2 0.14

40 74.37032 - 74.71033 -6.01478080144 0 0.34001

41 74.72033 - 74.79033 -5.94593201356 2 0.07

42 74.80037 - 74.83037 -5.83528593028 1 0.03

43 74.84033 - 74.85037 -5.94593201356 2 0.01004

44 74.86037 - 74.89037 -5.83528593028 1 0.03

45 74.90038 - 74.91032 -5.94593201356 2 0.00994

46 74.92045 - 75.22033 -6.01478080144 0 0.29988

47 75.23037 - 75.52033 -5.43914127941 3 0.28996

48 75.53116 - 75.56033 -5.94593201356 2 0.02917

49 75.57037 - 75.58033 -5.83528593028 1 0.00996000000001

50 75.59037 - 75.71037 -5.94593201356 2 0.12

51 75.72037 - 75.90032 -6.01478080144 0 0.17995

52 75.91037 - 75.97033 -5.83528593028 1 0.05996

53 75.98037 - 76.19032 -5.43914127941 3 0.20995

54 76.20037 - 76.29037 -5.83528593028 1 0.09

55 76.30033 - 76.38033 -5.43914127941 3 0.08

56 76.39037 - 76.42043 -5.83528593028 1 0.03006

57 76.43036 - 76.43036 -5.43914127941 3 0.0

58 76.44033 - 76.53037 -5.83528593028 1 0.09004

59 76.54032 - 76.63037 -5.94593201356 2 0.09005

60 76.64032 - 76.70032 -6.01478080144 0 0.06

61 76.71033 - 76.72032 -5.94593201356 2 0.00999

62 76.73038 - 76.83033 -5.83528593028 1 0.09995

63 76.84037 - 76.88032 -5.94593201356 2 0.03995

64 76.89038 - 77.19033 -6.01478080144 0 0.29995

65 77.20036 - 77.26036 -5.94593201356 2 0.06

66 77.27032 - 77.29038 -5.83528593028 1 0.02006

67 77.30036 - 77.30036 -5.94593201356 2 0.0

68 77.31033 - 77.32036 -6.01478080144 0 0.01003

69 77.33037 - 77.34032 -5.94593201356 2 0.00995

70 77.35033 - 77.37033 -5.83528593028 1 0.02

71 77.38036 - 77.3914 -5.43914127941 3 0.01104

72 77.40032 - 77.61033 -5.83528593028 1 0.21001

73 77.62031 - 77.80036 -5.94593201356 2 0.18005

74 77.81057 - 78.04037 -6.01478080144 0 0.2298

75 78.05032 - 78.34037 -5.94593201356 2 0.29005

76 78.35032 - 78.46033 -6.01478080144 0 0.11001

77 78.47032 - 78.54032 -5.94593201356 2 0.07

78 78.55036 - 78.62033 -6.01478080144 0 0.06997

79 78.63031 - 78.69037 -5.94593201356 2 0.06006

80 78.70033 - 78.81032 -6.01478080144 0 0.10999

81 78.82032 - 78.92033 -5.43914127941 3 0.10001

82 78.93037 - 79.19032 -6.01478080144 0 0.25995

83 79.20033 - 79.32036 -5.94593201356 2 0.12003

84 79.33037 - 79.35033 -5.43914127941 3 0.01996

85 79.36032 - 79.38037 -5.83528593028 1 0.02005

86 79.39139 - 79.39139 -5.43914127941 3 0.0

87 79.40033 - 79.43032 -5.94593201356 2 0.02999

88 79.44033 - 79.45037 -5.83528593028 1 0.01004

89 79.46037 - 79.60031 -5.43914127941 3 0.13994

90 79.61033 - 79.91037 -6.01478080144 0 0.30004

91 79.92032 - 79.94032 -5.94593201356 2 0.02

Means and total domain of each hidden state

---------------------------------------

0th hidden state

total number with this hidden state = 17

mean = [-6.0147808]

total time\_domain = 2.92976

1th hidden state

total number with this hidden state = 27

mean = [-5.83528593]

total time\_domain = 1.26981

2th hidden state

total number with this hidden state = 35

mean = [-5.94593201]

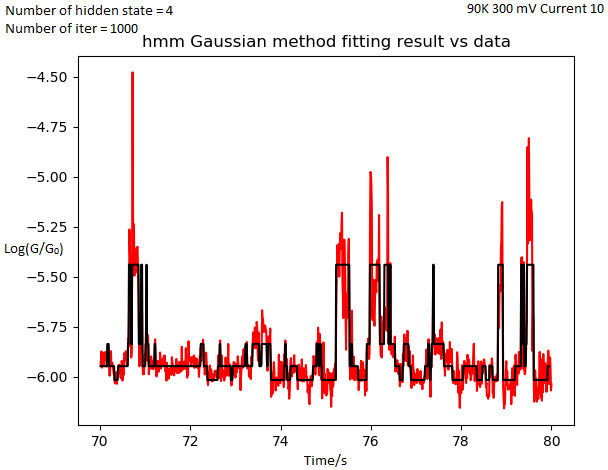
total time\_domain = 3.77013

3th hidden state

total number with this hidden state = 13

mean = [-5.43914128]

total time\_domain = 1.05077



n component = 2, n iter = 1000

110K 300 mV Current 6 (180s – 210s)

done fitting to HMM

Transition matrix

[[0.99836578 0.00163422]

[0.00463945 0.99536055]]

Means and Variance of each hidden state

0th hidden state

mean = [-5.32995771]

variance = [0.0030467]

1th hidden state

mean = [-4.50925273]

variance = [0.02756197]

Record of all hidden state

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

No. TIME Start - TIME End VALUE Hidden State {}th Time domain

0 180.02037 - 192.15032 -5.32995770922 0 12.12995

1 192.16033 - 200.44069 -4.50925273352 1 8.28036

2 200.46527 - 207.46032 -5.32995770922 0 6.99505

3 207.47037 - 207.50037 -4.50925273352 1 0.03

4 207.51032 - 207.80031 -5.32995770922 0 0.28999

5 207.81037 - 207.82096 -4.50925273352 1 0.01059

Means and total domain of each hidden state

---------------------------------------

0th hidden state

total number with this hidden state = 3

mean = [-5.32995771]

total time\_domain = 19.41499

1th hidden state

total number with this hidden state = 3

mean = [-4.50925273]

total time\_domain = 8.32095

