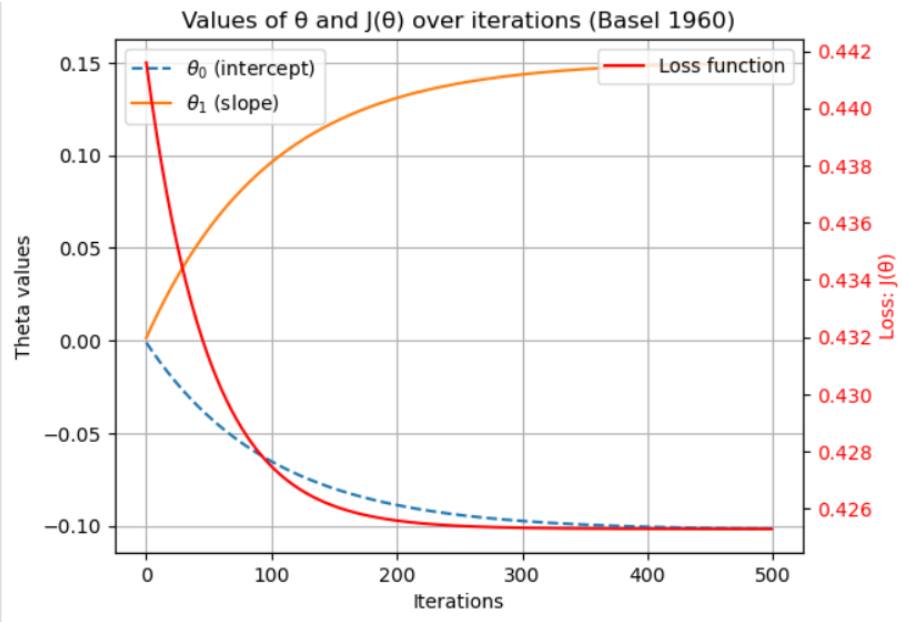
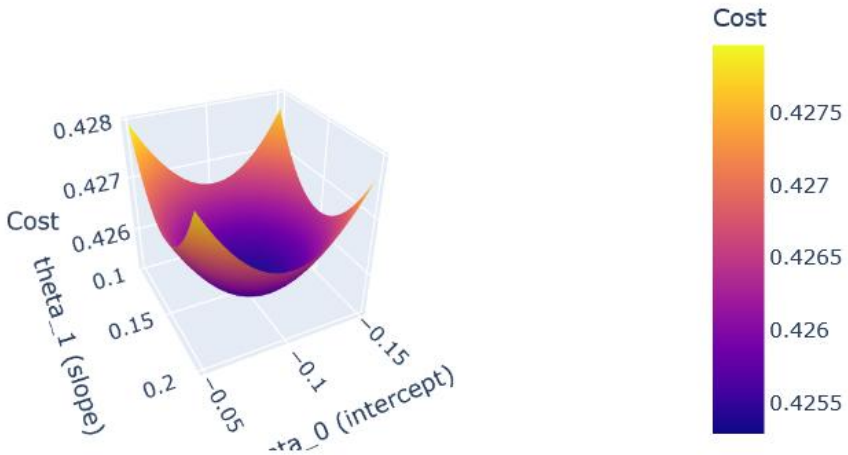
Weather Station	Year	Theta 0	Theta 1	Iteration	Step Size
Basel	1960	- 0.10	0.14	500	0.01
Basel	1990	0.07	0.07	500	0.01
Basel	2017	0.13	0.17	500	0.01
Madrid	1960	-0.12	0.10	500	0.01
Madrid	1990	0.06	0.11	500	0.01
Madrid	2017	0.24	0.17	500	0.01
Stockholm	1960	-0.09	0.33	500	0.01
Stockholm	1990	0.13	0.04	500	0.01
Stockholm	2017	0.08	0.21	500	0.01

- The mean temperature increased at all three weather stations (Basel, Madrid, and Stockholm) from 1960 to 2017.
- The minimum temperature at each station fluctuated over time, without a consistent pattern. Basel's minimum temperature increased from 1960 to 1990, then decreased by 2017, while Madrid and Stockholm showed a similar lack of clear trend.
- The maximum temperature increased at all stations, with the largest increase seen in Madrid, where the maximum rose from about 1.88 in 1960 to 2.34 in 2017.

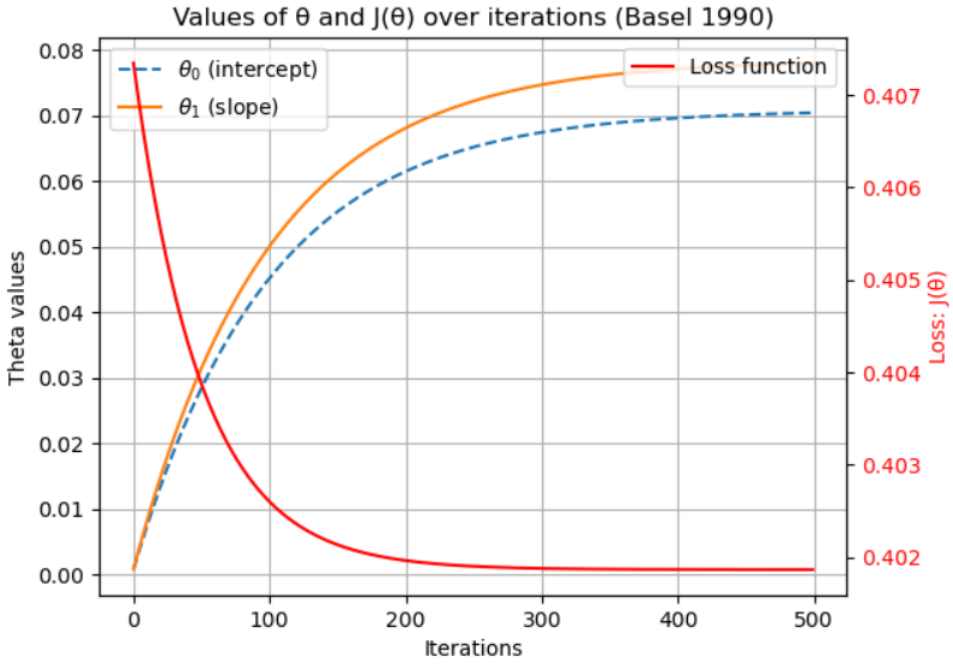
Basel 1960

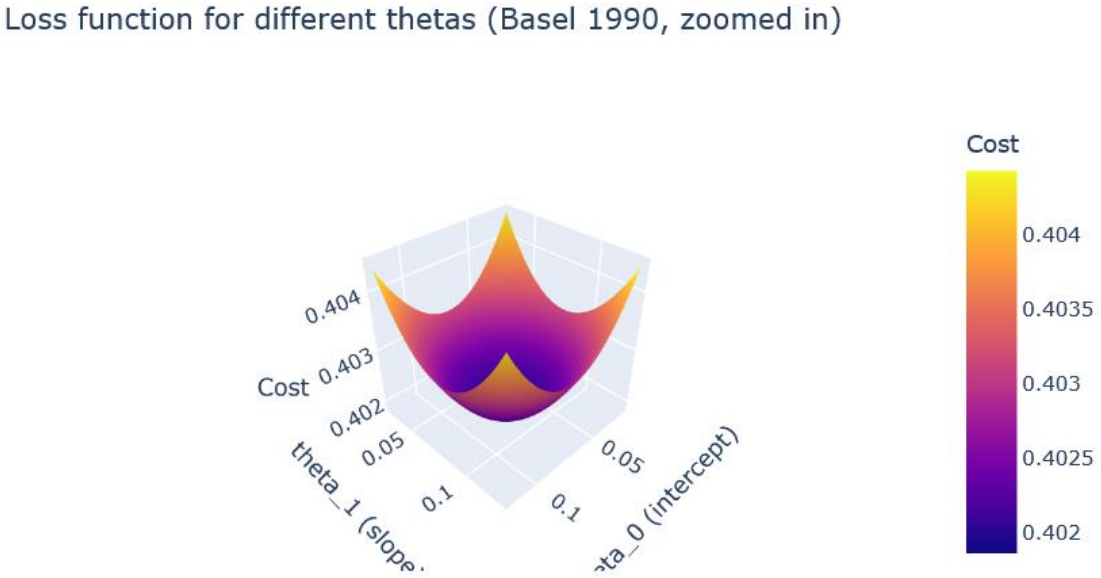


Loss function for different thetas (Basel 1960, zoomed in)

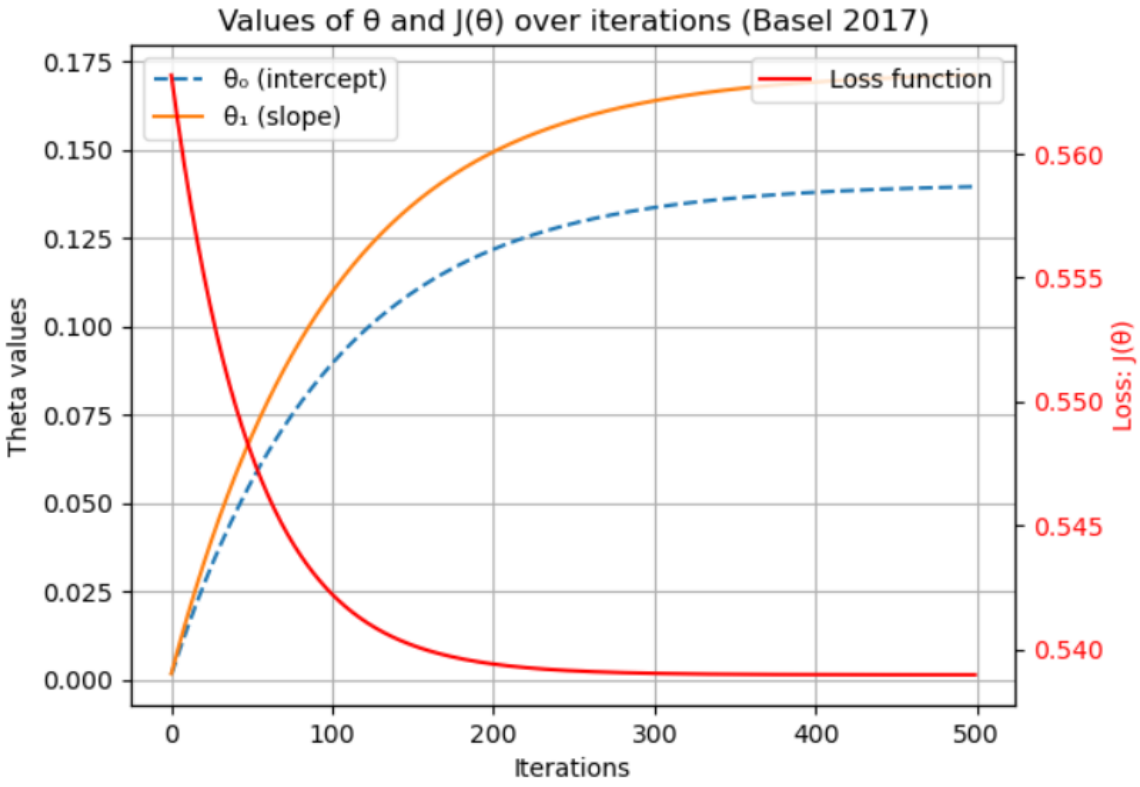


Basel 1990



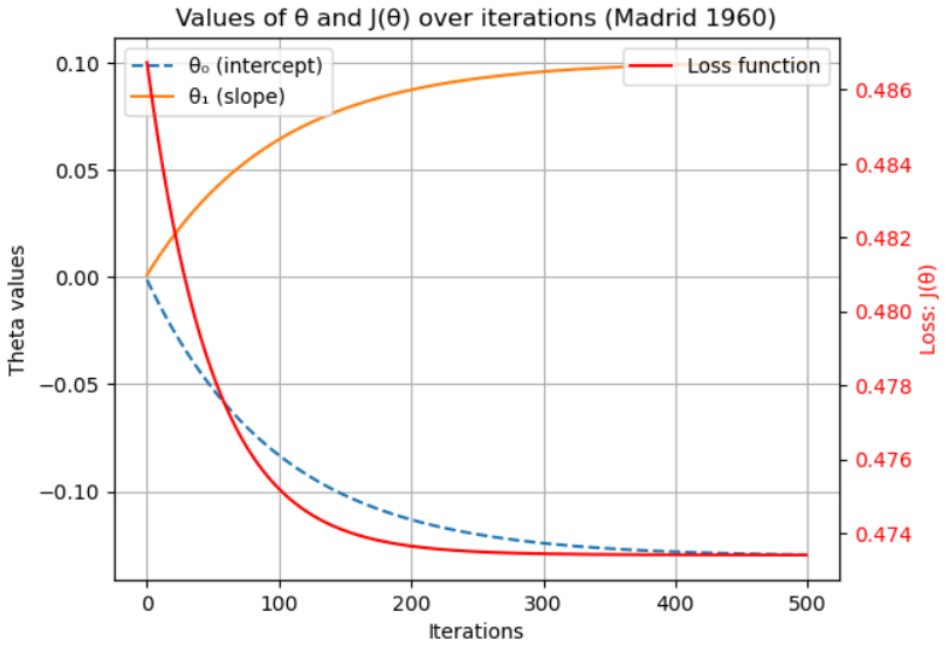

Loss function for different thetas (Basel 1990, zoomed in)
Cost
0.404
0.4035
0.403
0.4025
0.402
0.404
0.403
0.402
Cost
0.05
0.1
0.05
0.1
theta_1 (slope
ta_0 (intercept)

Basel 2017


Values of θ and J(θ) over iterations (Basel 2017)
θ₀ (intercept)
θ₁ (slope)
Loss function
Theta values
Loss: J(θ)
Iterations
0.175
0.150
0.125
0.100
0.075
0.050
0.025
0.000
0.560
0.555
0.550
0.545
0.540
0
100
200
300
400
500

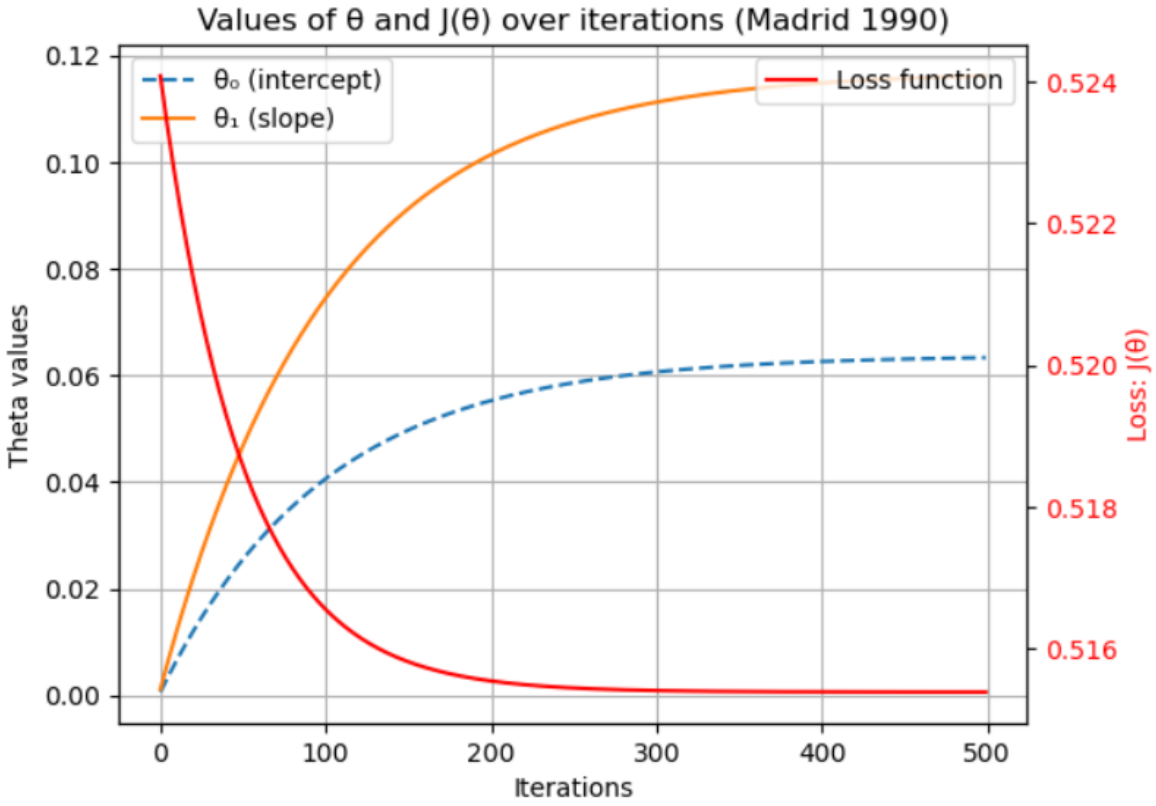
Loss function for different thetas (Basel 2017, zoomed in)

Madrid 1960



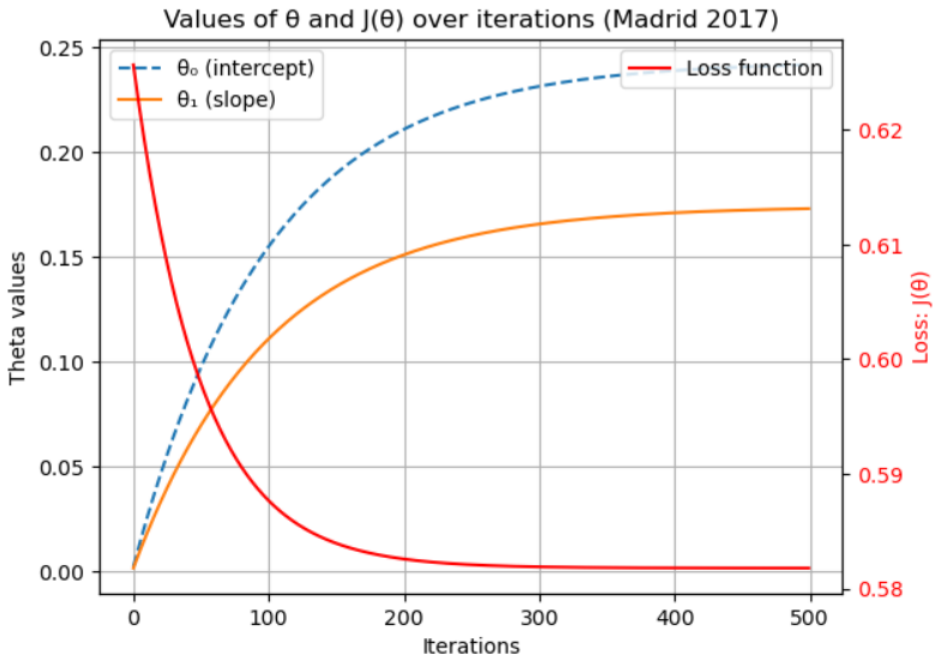
Loss function for different thetas (Madrid 1960, zoomed in)

Madrid 1990



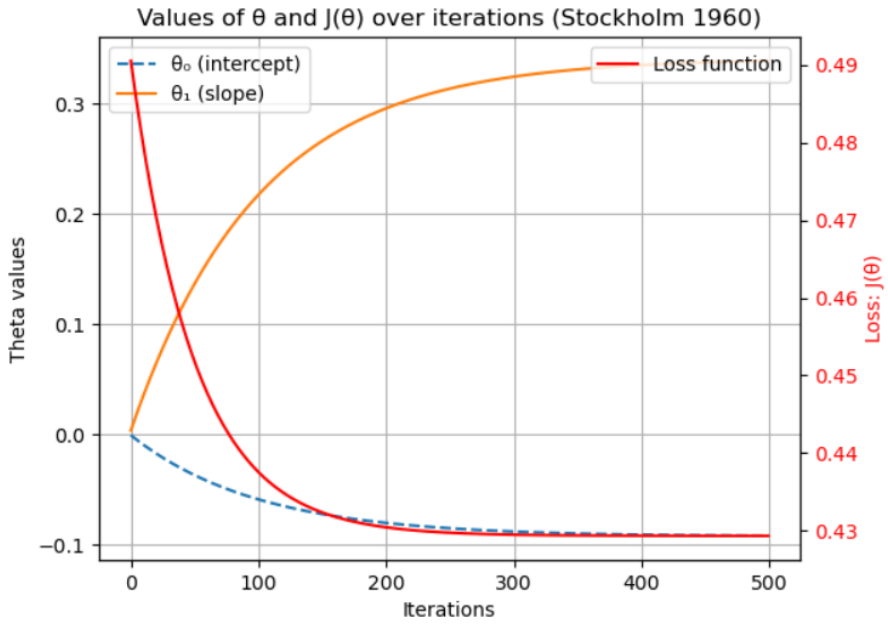
Loss function for different thetas (Madrid 1990, zoomed in)

Madrid 2017



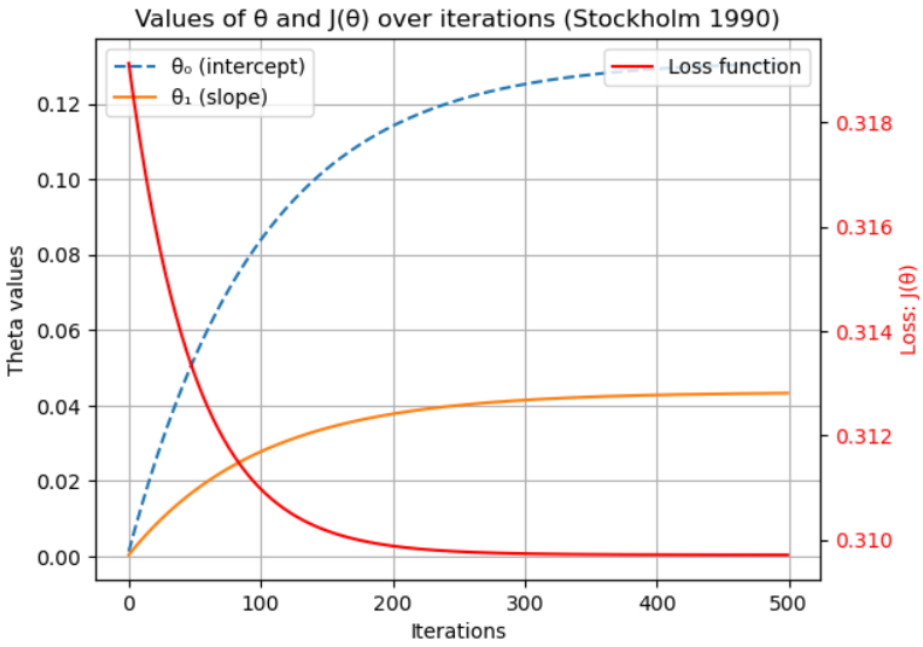
Loss function for different thetas (Madrid 2017, zoomed in)

Stockholm 1960



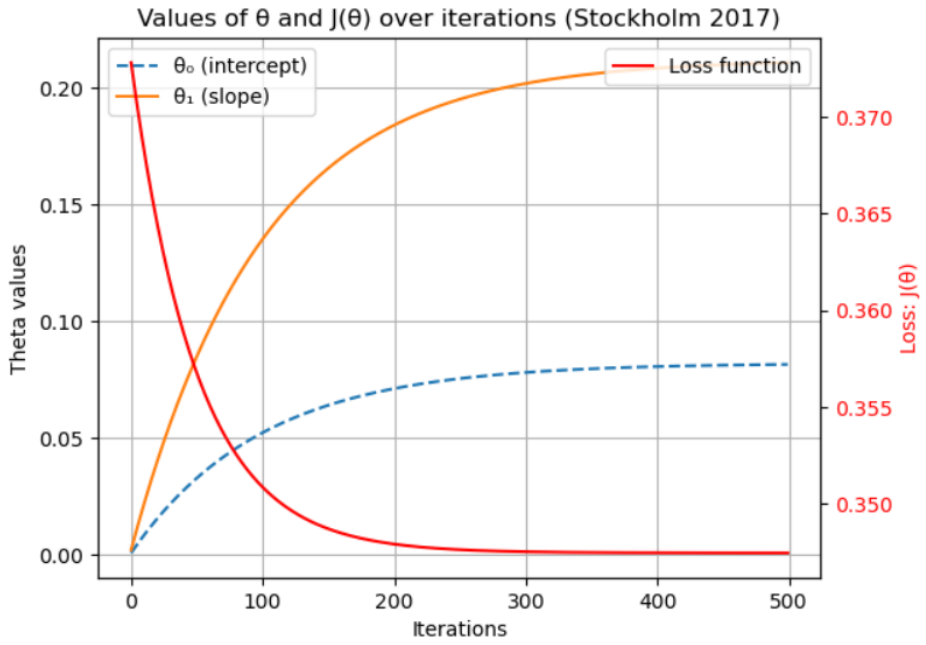
Loss function for different thetas (Stockholm 1960, zoomed in)

Stockholm 1990



Loss function for different thetas (Stockholm 1990, zoomed in)

Stockholm 2017



Loss function for different thetas (Stockholm 2017, zoomed in)