Prove con diverse parametrizzazioni della prior per la matrice di covarianza e con una nuova funzione g applicata alla Wasserstein distance (più schiacciata vicino allo zero in maniera da scoraggiare ancora di più cluster vicini)

5000 iterazioni con le prime 1000 di burn in funzione g

Chart, line chart

Description automatically generated

g =

Prior: IW(Σh|Φ0, ν0) v0= 5 , 10 , 15 Φ0 = **I** \* (v0-3)

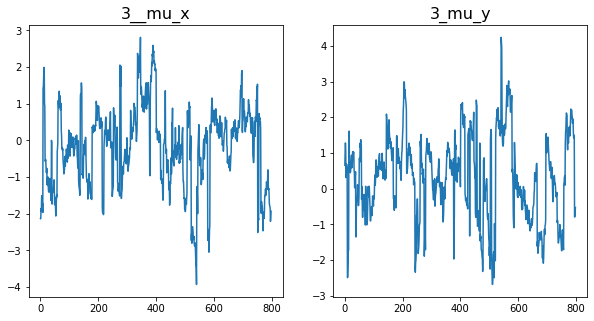
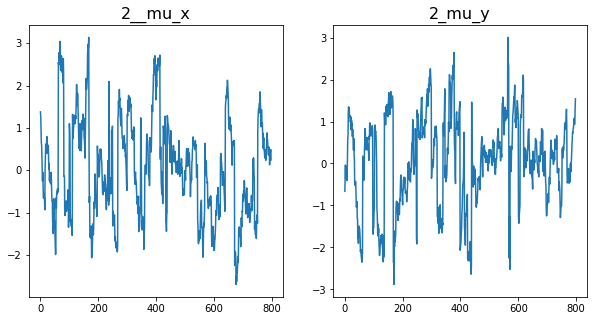
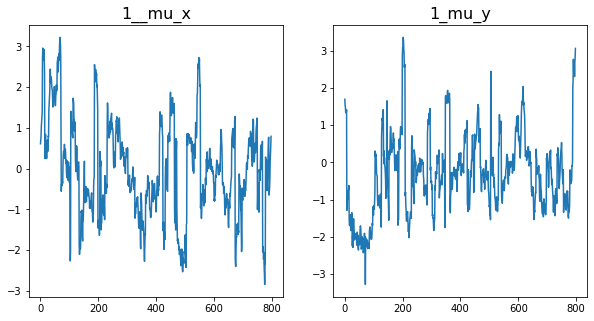
Abbiamo inoltre implementato una nuova proposal per mu per cercare di proporre valori “estremi” in alcune iterazioni della catena:

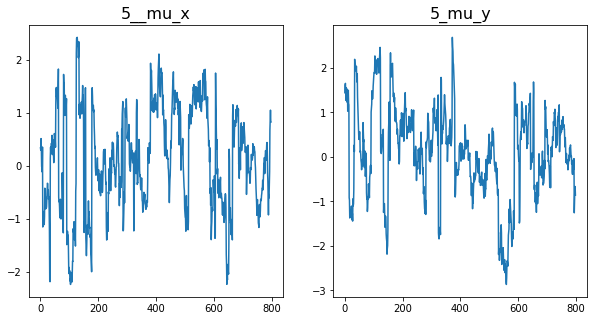
Mixture: 0.1 N(mu\_old, 3 \* I) + 0.9 N(mu\_old, 0.01 \* I)

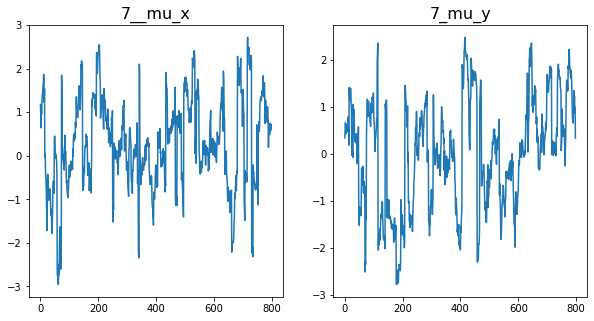
1. v0 = 5 thin=5

Traceplots (i grafici relativi ai clusters pieni sono il 4 ed il 6)

A picture containing text, needle

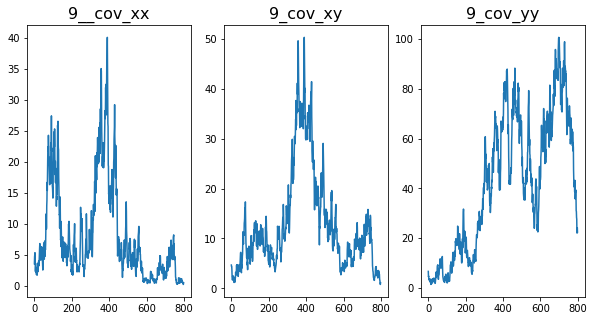
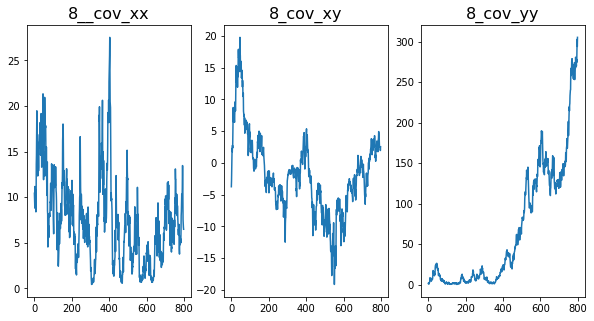
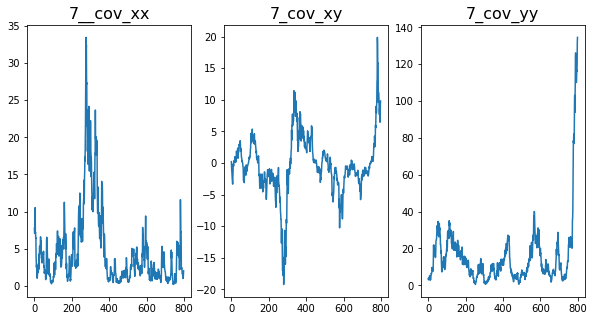
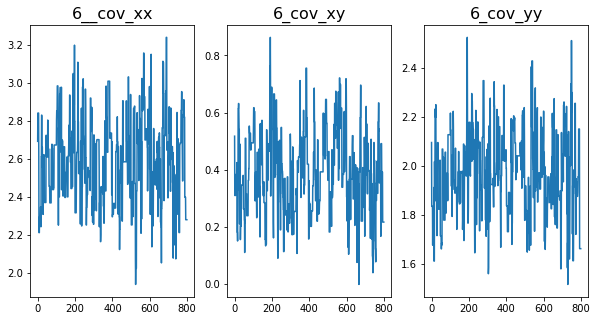
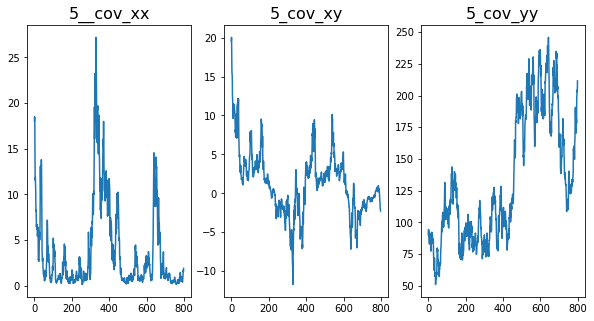
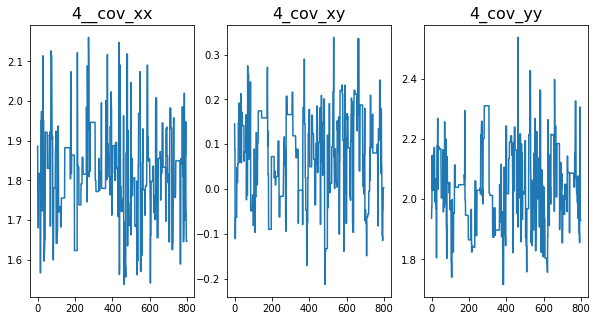
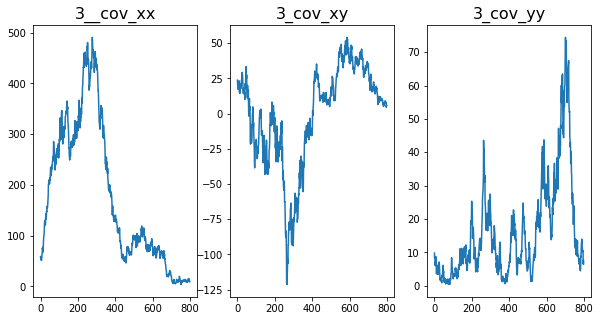
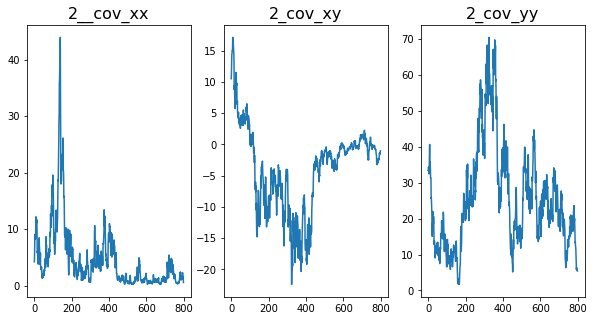
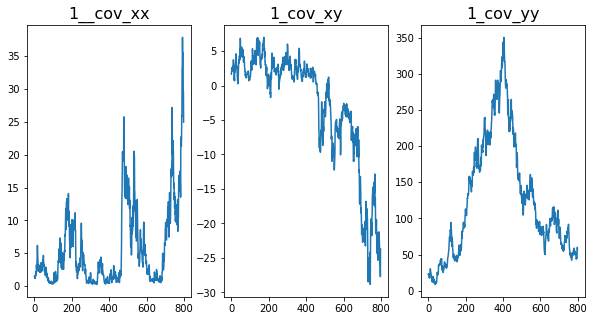
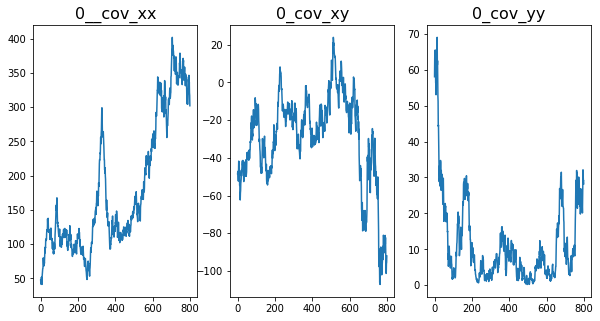
Description automatically generatedGraphical user interface, chart, bar chart

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Description automatically generatedA picture containing text, needle, chime

Description automatically generated



Migliori clusters trovati minimizzando la Binder loss Traceplot dei pesi

A picture containing background pattern

Description automatically generatedChart, scatter chart

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1. v0=15 thin = 5

Traceplots (i grafici relativi ai clusters pieni sono 2, 7 e 9)

Chart

Description automatically generatedGraphical user interface

Description automatically generatedChart

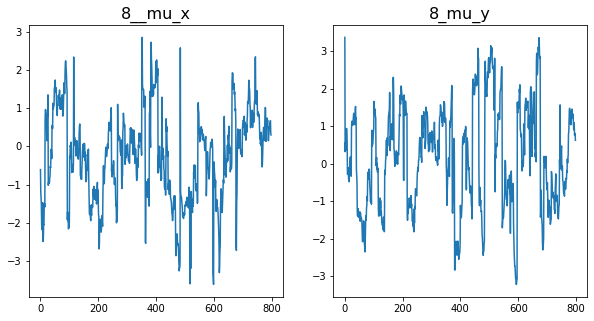
Description automatically generated with medium confidenceGraphical user interface

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Description automatically generatedGraphical user interface, chart

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A picture containing text

Description automatically generatedA picture containing chart

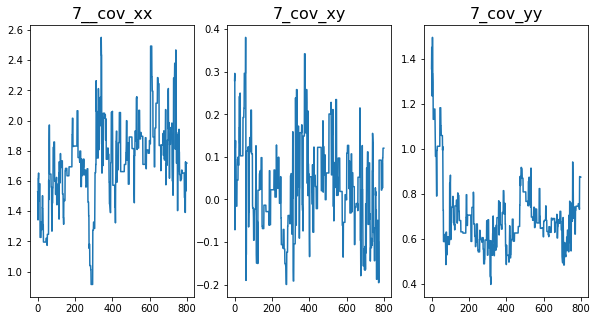
Description automatically generatedGraphical user interface

Description automatically generated with medium confidenceA picture containing graphical user interface

Description automatically generatedA picture containing text, screenshot

Description automatically generatedGraphical user interface

Description automatically generatedGraphical user interface

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Description automatically generatedA picture containing text

Description automatically generated

Migliori clusters trovati minimizzando la Binder loss Traceplot dei pesi

Chart

Description automatically generatedChart, scatter chart

Description automatically generated

Per v0=10 e thin= 5 i risultati sono analoghi al caso v0=15

Aumentare v0 contrasta la divergenza delle matrici covarianza ma riduce l’accuratezza dell’algoritmo che in alcune simulazioni trova tre clusters ed in altre due

La nuova proposal non sembra avere effetto sui risultati, dai traceplots sembrerebbe che i valori “estremi” per mu vengano sempre rifiutati