Prove con diverse parametrizzazioni della prior per la matrice di covarianza, con una nuova funzione g applicata alla Wasserstein distance (più schiacciata vicino allo zero in maniera da scoraggiare ancora di più cluster vicini) e con diversi thin per vedere se abbiamo meno correlazione nei traceplots.

5000 iterazioni con le prime 1000 di burn in funzione g

Chart, line chart

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g =

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

Thin = 1 , 5

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 =1

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

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Chart, scatter chart

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1. v0 = 5 thin=5

Traceplots (i grafici relativi ai clusters pieni sono il 6 ed il 7)

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Migliori clusters trovati minimizzando la Binder loss Traceplot dei pesi

Chart, scatter chart

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1. v0=10 thin = 5

Traceplots (i grafici relativi ai clusters pieni sono 4, 6 e 7)

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Description automatically generatedGraphical user interface

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A picture containing chart

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Description automatically generatedMigliori clusters trovati minimizzando la Binder loss Traceplot dei pesi

Per v0=15 e thin= 5 i risultati sono analoghi al caso v0=10 con un ulteriore miglioramento nei traceplots delle covarianze

Il thin non sembra migliorare in modo particolare i traceplots

Aumentare v0 contrasta la divergenza delle matrici covarianza ma riduce l’accuratezza dell’algoritmo che trova tre clusters invece che due

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