

## Huber prior

```
huber_prior_value
Iteration = 5, lr =  0.099, RRMSE = 0.23743396018359328, prev_RRMSE = 0.23401188441415732, patience = 20
Iteration = 10, lr =  0.096, RRMSE = 0.282442930933746, prev_RRMSE = 0.27133077226669683, patience = 15
Iteration = 15, lr =  0.090, RRMSE = 0.3427440997997732, prev_RRMSE = 0.3304845551269221, patience = 10
Iteration = 20, lr =  0.083, RRMSE = 0.40184205993405225, prev_RRMSE = 0.3904607919617533, patience = 5
1.0*alpha, 1.0*gamma, RRMSE =  0.23401
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Iteration = 5, lr =  0.099, RRMSE = 0.23615101388675735, prev_RRMSE = 0.23429715723237396, patience = 20
Iteration = 10, lr =  0.096, RRMSE = 0.27727552259489785, prev_RRMSE = 0.266727709316286, patience = 15
Iteration = 15, lr =  0.090, RRMSE = 0.3351995669846232, prev_RRMSE = 0.3233721151067372, patience = 10
Iteration = 20, lr =  0.083, RRMSE = 0.39240138864864454, prev_RRMSE = 0.38136658927050626, patience = 5
1.0*alpha, 0.8*gamma, RRMSE =  0.23430
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Iteration = 5, lr =  0.099, RRMSE = 0.25106163404783105, prev_RRMSE = 0.24144979911960768, patience = 19
Iteration = 10, lr =  0.096, RRMSE = 0.3354007068338085, prev_RRMSE = 0.316620637525237, patience = 14
Iteration = 15, lr =  0.090, RRMSE = 0.42718330616457395, prev_RRMSE = 0.40957113674829665, patience = 9
Iteration = 20, lr =  0.083, RRMSE = 0.506910481639159, prev_RRMSE = 0.49213650398581005, patience = 4
0.8*alpha, 1.0*gamma, RRMSE =  0.23814
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Iteration = 5, lr =  0.099, RRMSE = 0.2350520059954647, prev_RRMSE = 0.23503846216509566, patience = 20
Iteration = 10, lr =  0.096, RRMSE = 0.24677250022615416, prev_RRMSE = 0.24349718599000744, patience = 15
Iteration = 15, lr =  0.090, RRMSE = 0.2671200495258725, prev_RRMSE = 0.262650134950914, patience = 10
Iteration = 20, lr =  0.083, RRMSE = 0.2909363430831152, prev_RRMSE = 0.28606205057405926, patience = 5
1.2*alpha, 1.0*gamma, RRMSE =  0.23504
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Iteration = 5, lr =  0.099, RRMSE = 0.23937668901342735, prev_RRMSE = 0.234846623191234, patience = 19
Iteration = 10, lr =  0.096, RRMSE = 0.287679803835888, prev_RRMSE = 0.27600349765170945, patience = 14
Iteration = 15, lr =  0.090, RRMSE = 0.35045763618958437, prev_RRMSE = 0.33774639113433336, patience = 9
Iteration = 20, lr =  0.083, RRMSE = 0.4115273051216419, prev_RRMSE = 0.39978703371231145, patience = 4
1.0*alpha, 1.2*gamma, RRMSE =  0.23411
```

## Quadratic prior

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quadratic_prior_value
Iteration = 5, lr =  0.099, RRMSE = 0.3714309354534029, prev_RRMSE = 0.33558263143821787, patience = 17
Iteration = 10, lr =  0.096, RRMSE = 0.5351458972814761, prev_RRMSE = 0.5058129308604091, patience = 12
Iteration = 15, lr =  0.090, RRMSE = 0.6553722076747656, prev_RRMSE = 0.6346040688167772, patience = 7
Iteration = 20, lr =  0.083, RRMSE = 0.7391520149444611, prev_RRMSE = 0.7247764331952283, patience = 2
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1.0*alpha, 1.0*gamma, RRMSE =  0.26565
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```
Iteration = 5, lr =  0.099, RRMSE = 0.3714309354534029, prev_RRMSE = 0.33558263143821787, patience = 17
Iteration = 10, lr =  0.096, RRMSE = 0.5351458972814761, prev_RRMSE = 0.5058129308604091, patience = 12
Iteration = 15, lr =  0.090, RRMSE = 0.6553722076747656, prev_RRMSE = 0.6346040688167772, patience = 7
Iteration = 20, lr =  0.083, RRMSE = 0.7391520149444611, prev_RRMSE = 0.7247764331952283, patience = 2
```

```
1.0*alpha, 0.8*gamma, RRMSE =  0.26565
```

```
Iteration = 5, lr =  0.099, RRMSE = 0.36385078690110634, prev_RRMSE = 0.3277708484464045, patience = 17
Iteration = 10, lr =  0.096, RRMSE = 0.530915216701344, prev_RRMSE = 0.5010105001034584, patience = 12
Iteration = 15, lr =  0.090, RRMSE = 0.6529190051593319, prev_RRMSE = 0.631908748416839, patience = 7
Iteration = 20, lr =  0.083, RRMSE = 0.7374310064609939, prev_RRMSE = 0.7229554687531243, patience = 2
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0.8*alpha, 1.0*gamma, RRMSE =  0.26581
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```
Iteration = 5, lr =  0.099, RRMSE = 0.3781335073129866, prev_RRMSE = 0.3429174297425829, patience = 17
Iteration = 10, lr =  0.096, RRMSE = 0.5380780354195329, prev_RRMSE = 0.5093351338155623, patience = 12
Iteration = 15, lr =  0.090, RRMSE = 0.6564648941392558, prev_RRMSE = 0.6359497594905462, patience = 7
Iteration = 20, lr =  0.083, RRMSE = 0.7394822299726446, prev_RRMSE = 0.7252088030439915, patience = 2
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1.2*alpha, 1.0*gamma, RRMSE =  0.26642
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```
Iteration = 5, lr =  0.099, RRMSE = 0.3714309354534029, prev_RRMSE = 0.33558263143821787, patience = 17
Iteration = 10, lr =  0.096, RRMSE = 0.5351458972814761, prev_RRMSE = 0.5058129308604091, patience = 12
Iteration = 15, lr =  0.090, RRMSE = 0.6553722076747656, prev_RRMSE = 0.6346040688167772, patience = 7
Iteration = 20, lr =  0.083, RRMSE = 0.7391520149444611, prev_RRMSE = 0.7247764331952283, patience = 2
```

```
1.0*alpha, 1.2*gamma, RRMSE =  0.26565
```

### Third prior

```
third_prior_value
Iteration = 5, lr =  0.099, RRMSE =  0.24851979460951698, prev_RRMSE = 0.24220339434323407, patience = 19
Iteration = 10, lr =  0.096, RRMSE =  0.31065245359695787, prev_RRMSE = 0.29617366394709116, patience = 14
Iteration = 15, lr =  0.090, RRMSE =  0.385016813696521, prev_RRMSE = 0.37034365260717184, patience = 9
Iteration = 20, lr =  0.083, RRMSE =  0.4534033937595948, prev_RRMSE = 0.4405081591701705, patience = 4
1.0*alpha, 1.0*gamma, RRMSE =  0.24060
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Iteration = 5, lr =  0.099, RRMSE =  0.24552135620903243, prev_RRMSE = 0.24072802526821, patience = 20
Iteration = 10, lr =  0.096, RRMSE =  0.3024913887111597, prev_RRMSE = 0.2888291690316073, patience = 15
Iteration = 15, lr =  0.090, RRMSE =  0.3738198931506719, prev_RRMSE = 0.35963224272492245, patience = 10
Iteration = 20, lr =  0.083, RRMSE =  0.44051069151547245, prev_RRMSE = 0.4278663818015093, patience = 5
1.0*alpha, 0.8*gamma, RRMSE =  0.24073
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```
Iteration = 5, lr =  0.099, RRMSE =  0.2614150452902639, prev_RRMSE = 0.24949912495357268, patience = 19
Iteration = 10, lr =  0.096, RRMSE =  0.3569001801821856, prev_RRMSE = 0.33613052812209027, patience = 14
Iteration = 15, lr =  0.090, RRMSE =  0.4561530370209581, prev_RRMSE = 0.43735833908735394, patience = 9
Iteration = 20, lr =  0.083, RRMSE =  0.5398918930906, prev_RRMSE = 0.5245409502896602, patience = 4
0.8*alpha, 1.0*gamma, RRMSE =  0.24395
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```
Iteration = 5, lr =  0.099, RRMSE =  0.24381748537794823, prev_RRMSE = 0.24135579016647188, patience = 20
Iteration = 10, lr =  0.096, RRMSE =  0.27403179231323194, prev_RRMSE = 0.26657870531829647, patience = 15
Iteration = 15, lr =  0.090, RRMSE =  0.315412272441429, prev_RRMSE = 0.3068591990588582, patience = 10
Iteration = 20, lr =  0.083, RRMSE =  0.35758934693486855, prev_RRMSE = 0.3493541709364762, patience = 5
1.2*alpha, 1.0*gamma, RRMSE =  0.24136
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```
Iteration = 5, lr =  0.099, RRMSE =  0.25185832387924745, prev_RRMSE = 0.2442235173717205, patience = 19
Iteration = 10, lr =  0.096, RRMSE =  0.3186205201501213, prev_RRMSE = 0.3034089912927102, patience = 14
Iteration = 15, lr =  0.090, RRMSE =  0.39554938010158336, prev_RRMSE = 0.3804946392017239, patience = 9
Iteration = 20, lr =  0.083, RRMSE =  0.4650455837739181, prev_RRMSE = 0.45202367408128674, patience = 4
1.0*alpha, 1.2*gamma, RRMSE =  0.24110
```