Hidden Activity Results

February 24, 2022

1 Introduction

All the MSE results of the simulations are averaged over 5 independent trials.

2 Synthetic Data

2.1 $J = 1/size + randn()/sqrt(size)$

2.1.1 b size = 0

Seed: [2692]. Original size: 10. Visible units: 6. Hidden units: 0. O. Simulation steps: 1500. F. Simulation steps: 1500. eta: 0.01. max_reps: 4000

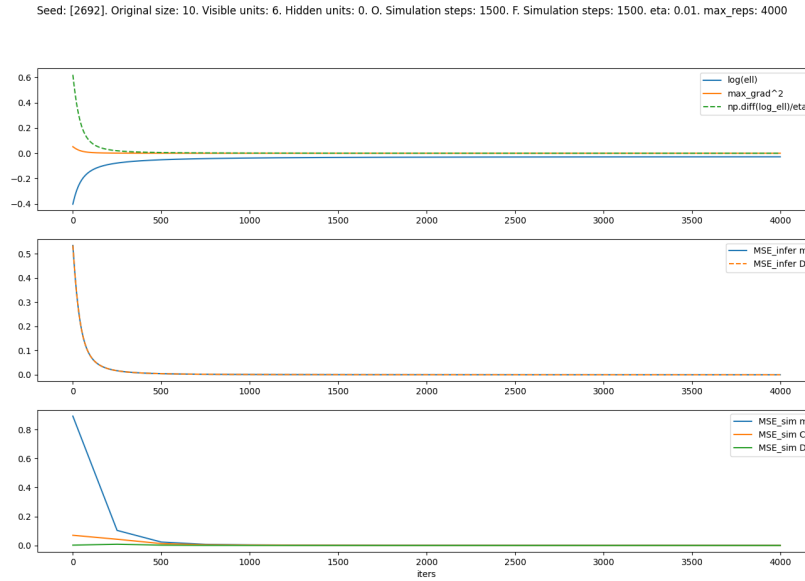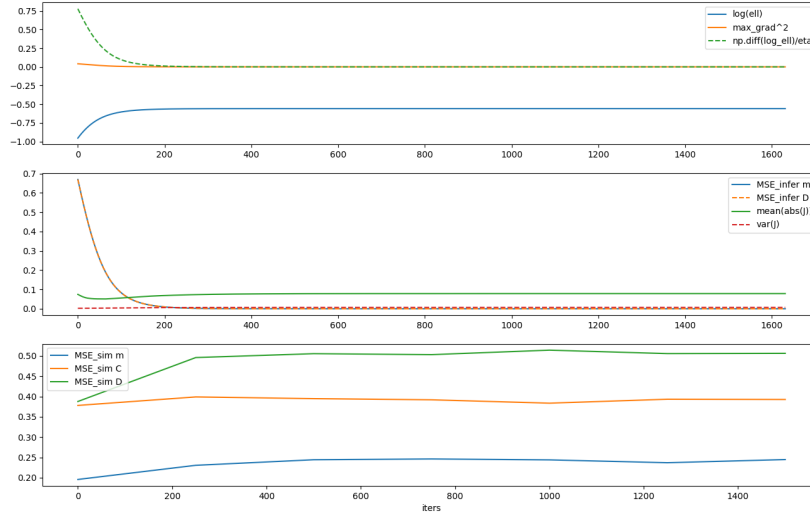Figure 1: Seed 2692
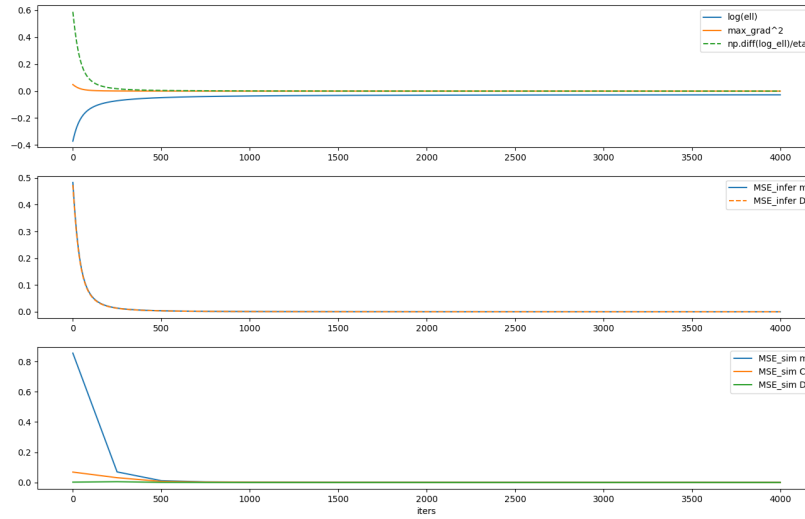
Figure 2: Seed 1185

2.1.2   b size = 1

Figure 3: Seed 2692

Seed: [1185]. Original size: 10. Visible units: 6. Hidden units: 1. O. Simulation steps: 1500. F. Simulation steps: 1500. eta: 0.01. max_reps: 4000
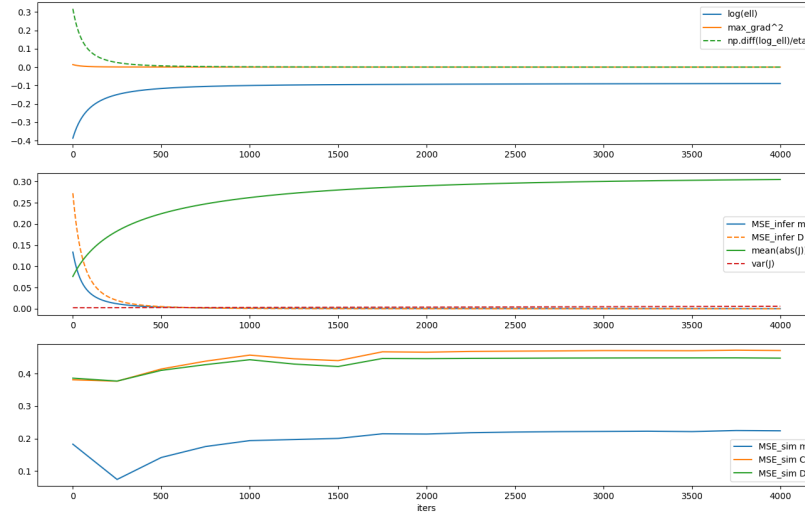
Figure 4: Seed 1185

2.1.3 b size = 2

Seed: [2692]. Original size: 10. Visible units: 6. Hidden units: 2. O. Simulation steps: 1500. F. Simulation steps: 1500. eta: 0.01. max_reps: 4000

Figure 5: Seed 2692

2.2 $J = randn()/size$

2.2.1 b size = 0

Seed: [2692]. Original size: 10. Visible units: 6. Hidden units: 0. O. Simulation steps: 1500. F. Simulation steps: 1500. eta: 0.01. max_reps: 4000
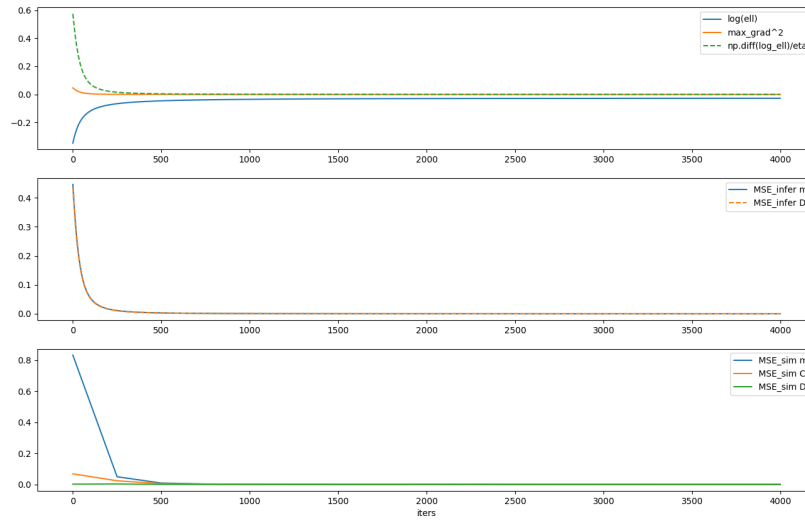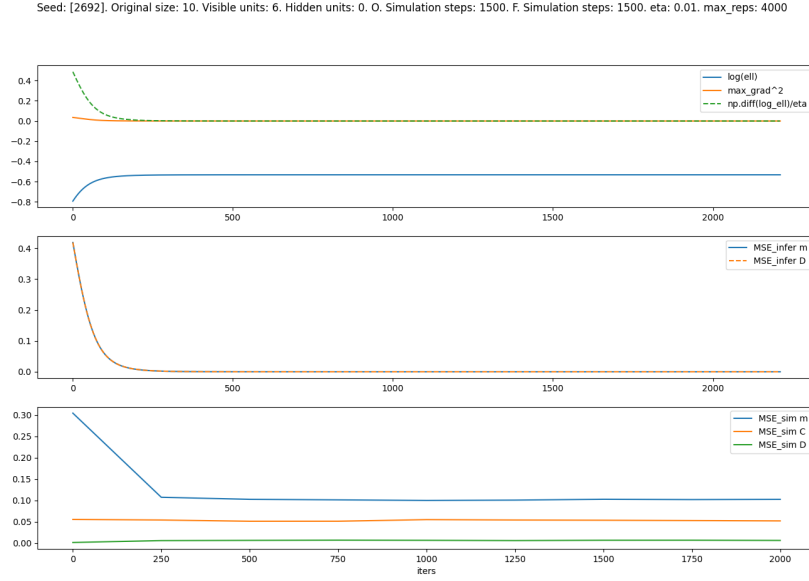

Figure 6: Seed 2692

Seed: [1185]. Original size: 10. Visible units: 6. Hidden units: 0. O. Simulation steps: 1500. F. Simulation steps: 1500. eta: 0.01. max_reps: 4000
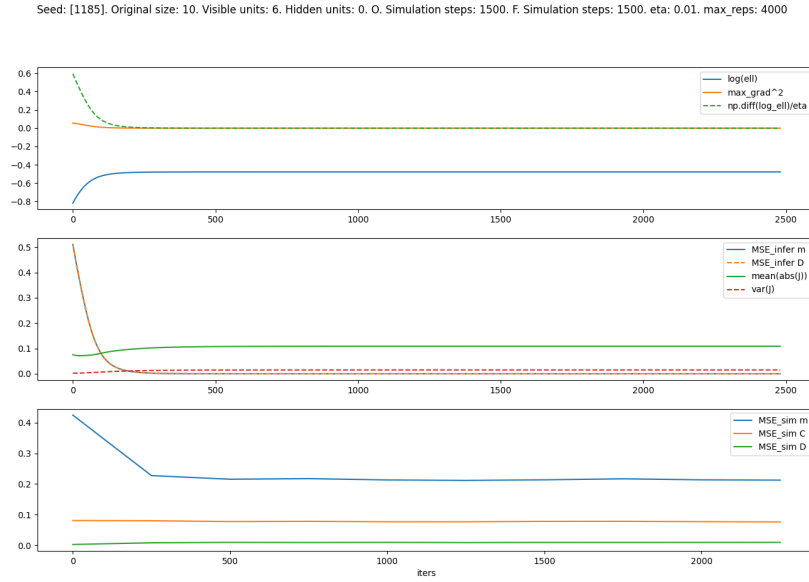

Figure 7: Seed 1185

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2.2.2 b size = 1

Seed: [2692]. Original size: 10. Visible units: 6. Hidden units: 1. O. Simulation steps: 1500. F. Simulation steps: 1500. eta: 0.01. max_reps: 4000
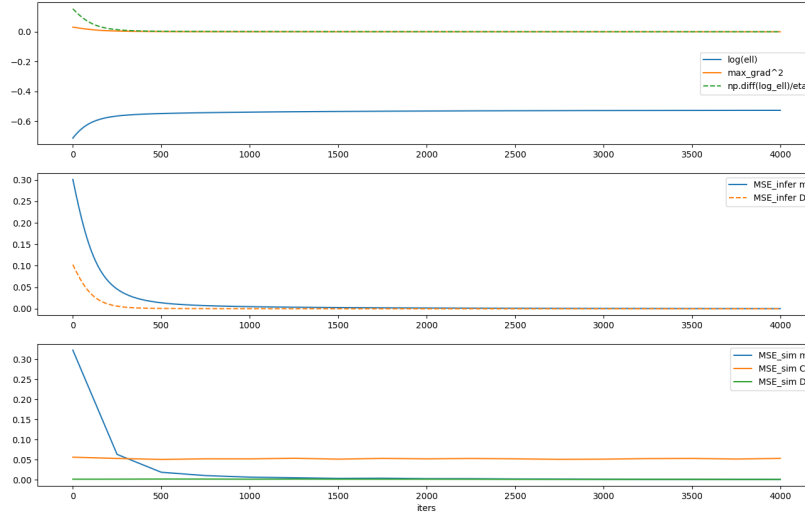

Figure 8: Seed 2692

Seed: [1185]. Original size: 10. Visible units: 6. Hidden units: 1. O. Simulation steps: 1500. F. Simulation steps: 1500. eta: 0.01. max_reps: 4000
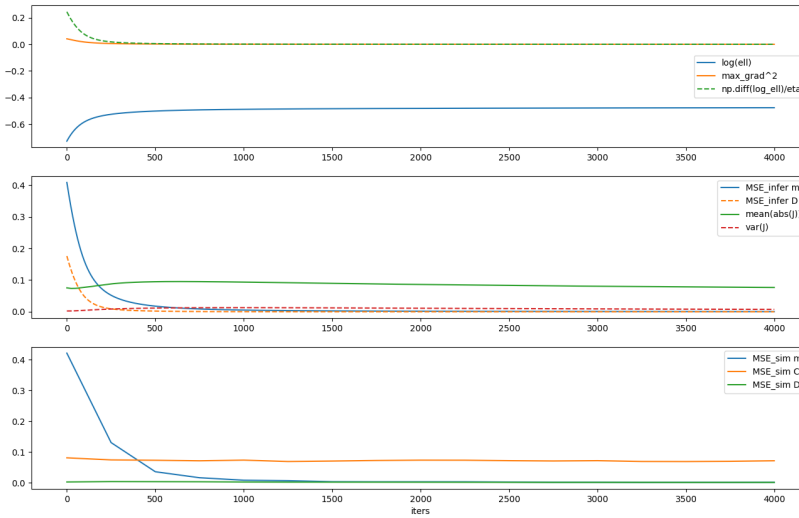

Figure 9: Seed 1185

2.2.3   b size = 2

Seed: [2692]. Original size: 10. Visible units: 6. Hidden units: 2. O. Simulation steps: 1500. F. Simulation steps: 1500. eta: 0.01. max_reps: 4000
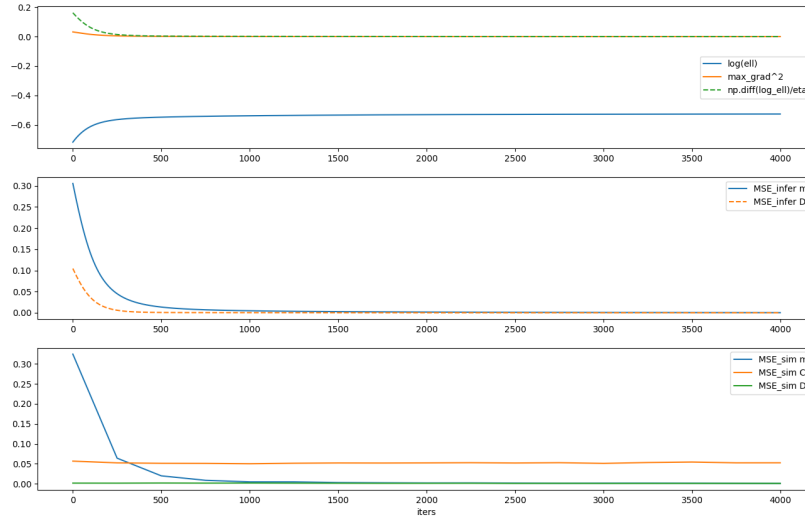

Figure 10: Seed 2692
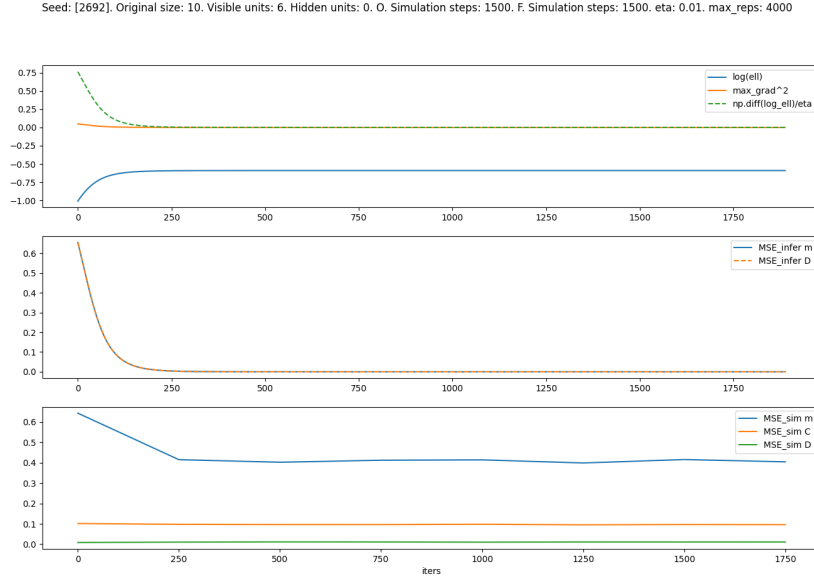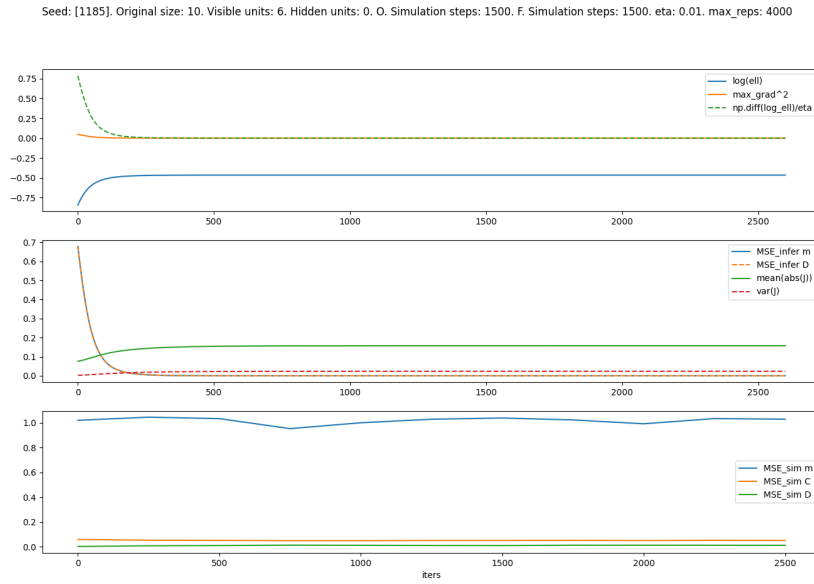
2.3 $J = 1/size$

2.3.1 b size = 0

Seed: [2692]. Original size: 10. Visible units: 6. Hidden units: 0. O. Simulation steps: 1500. F. Simulation steps: 1500. eta: 0.01. max_reps: 4000
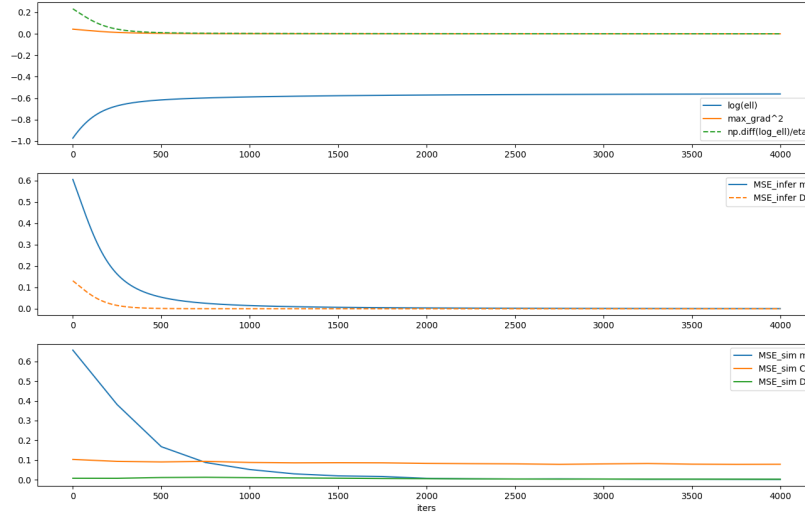

Figure 11: Seed 2692

Seed: [1185]. Original size: 10. Visible units: 6. Hidden units: 0. O. Simulation steps: 1500. F. Simulation steps: 1500. eta: 0.01. max_reps: 4000
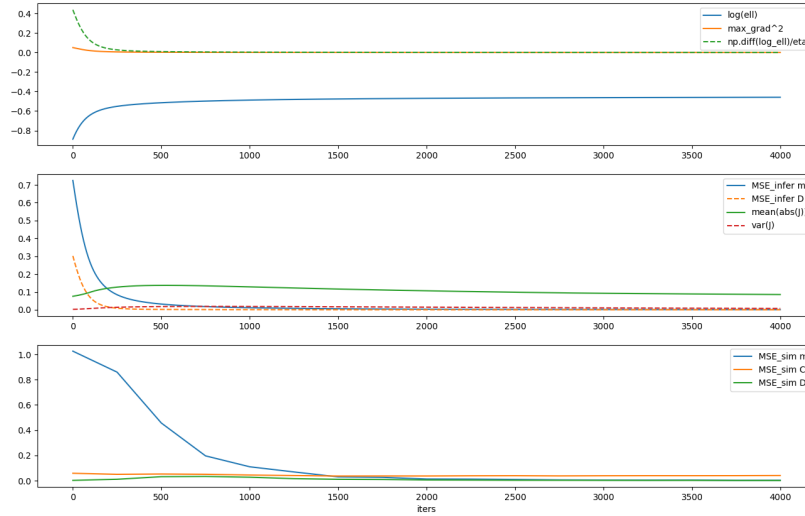

Figure 12: Seed 1185

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2.3.2   b size = 1

Seed: [2692]. Original size: 10. Visible units: 6. Hidden units: 1. O. Simulation steps: 1500. F. Simulation steps: 1500. eta: 0.01. max_reps: 4000
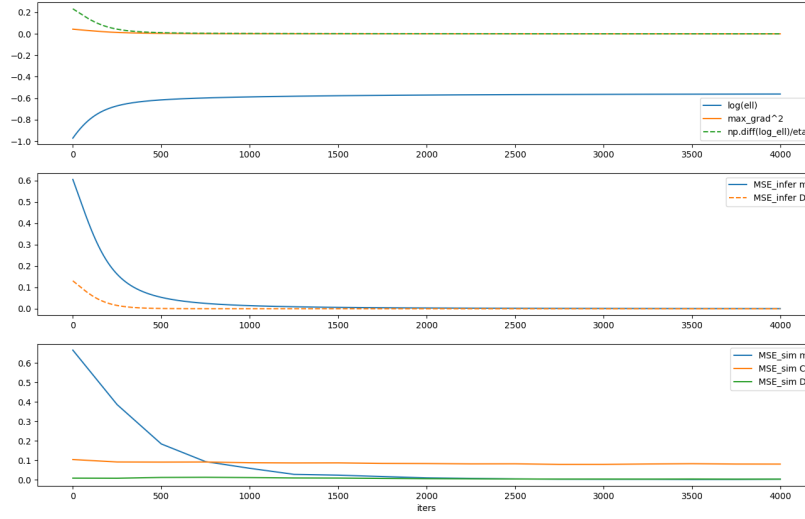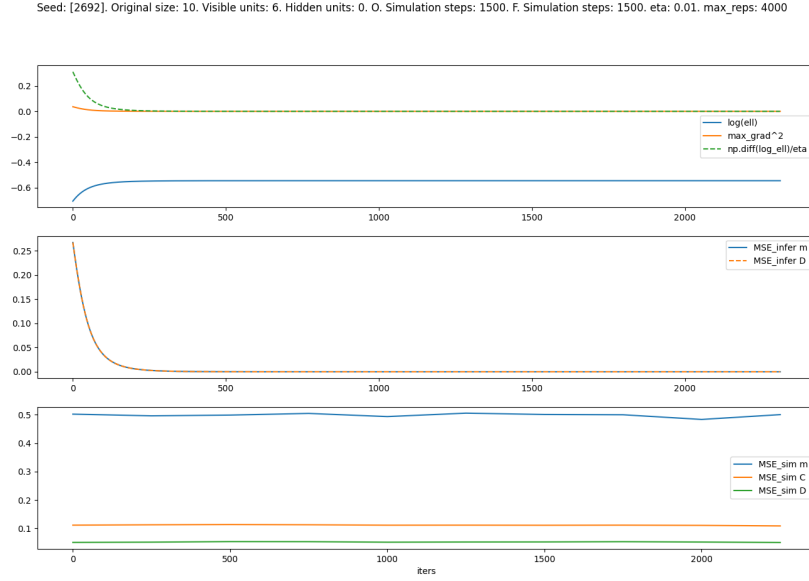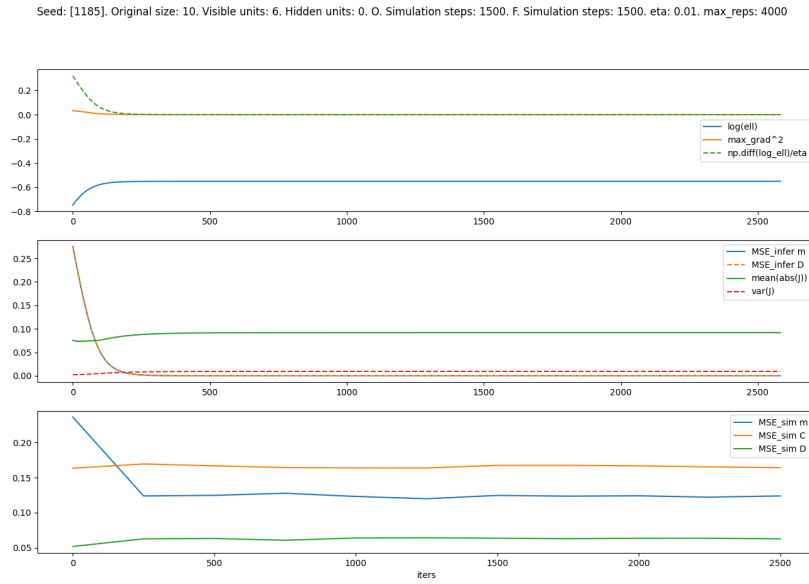

Figure 13: Seed 2692

Seed: [1185]. Original size: 10. Visible units: 6. Hidden units: 1. O. Simulation steps: 1500. F. Simulation steps: 1500. eta: 0.01. max_reps: 4000

Figure 14: Seed 1185

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2.3.3 b size = 2

Seed: [2692]. Original size: 10. Visible units: 6. Hidden units: 2. O. Simulation steps: 1500. F. Simulation steps: 1500. eta: 0.01. max_reps: 4000
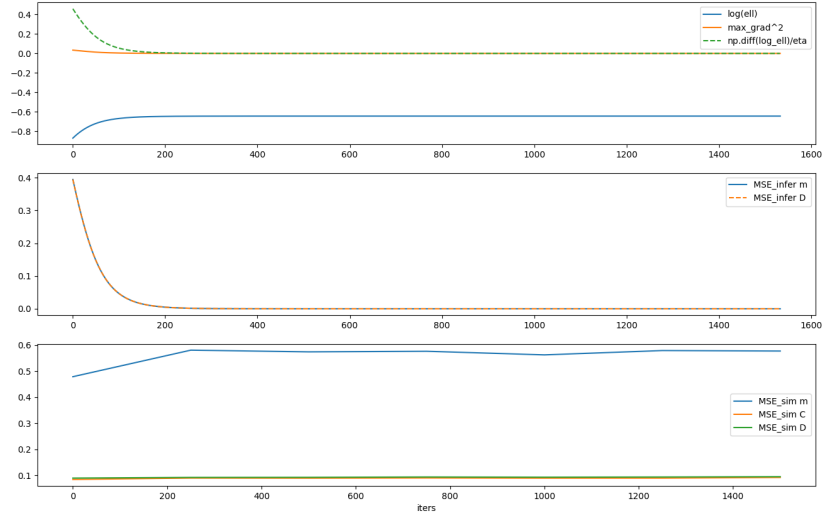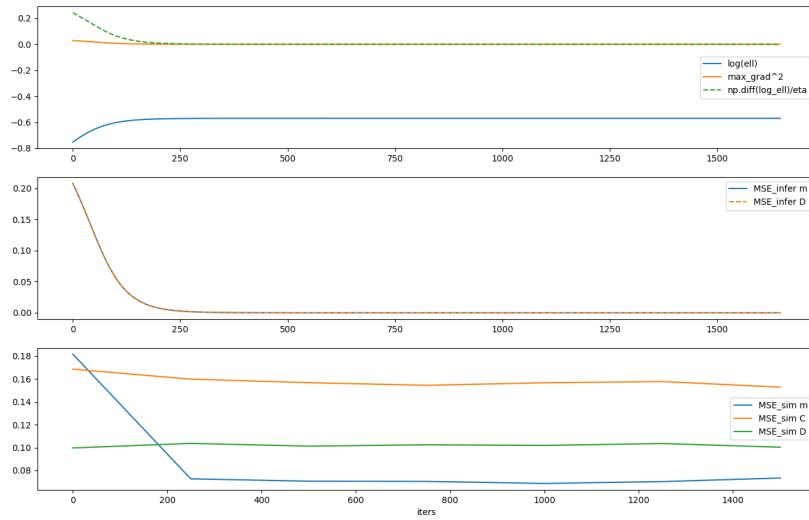

Figure 15: Seed 2692

2.4 $J = randn()/sqrt(size)$

2.4.1   b size = 0

Seed: [2692]. Original size: 10. Visible units: 6. Hidden units: 0. O. Simulation steps: 1500. F. Simulation steps: 1500. eta: 0.01. max_reps: 4000
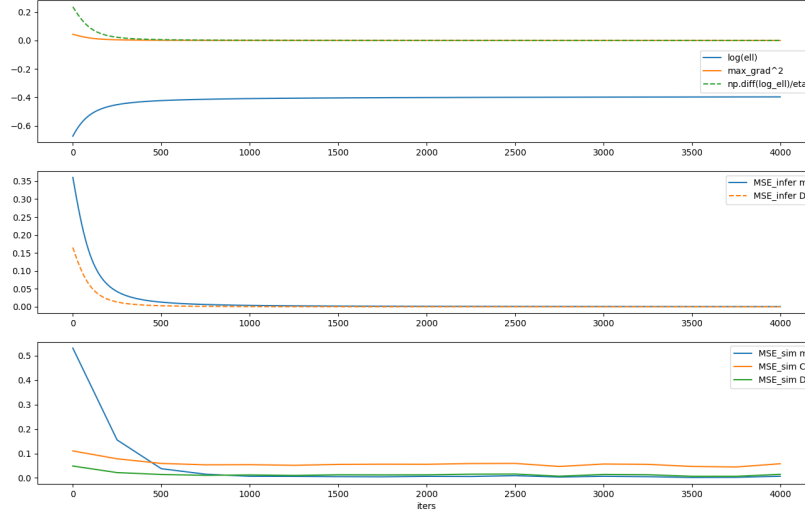

Figure 16: Seed 2692

Seed: [1185]. Original size: 10. Visible units: 6. Hidden units: 0. O. Simulation steps: 1500. F. Simulation steps: 1500. eta: 0.01. max_reps: 4000
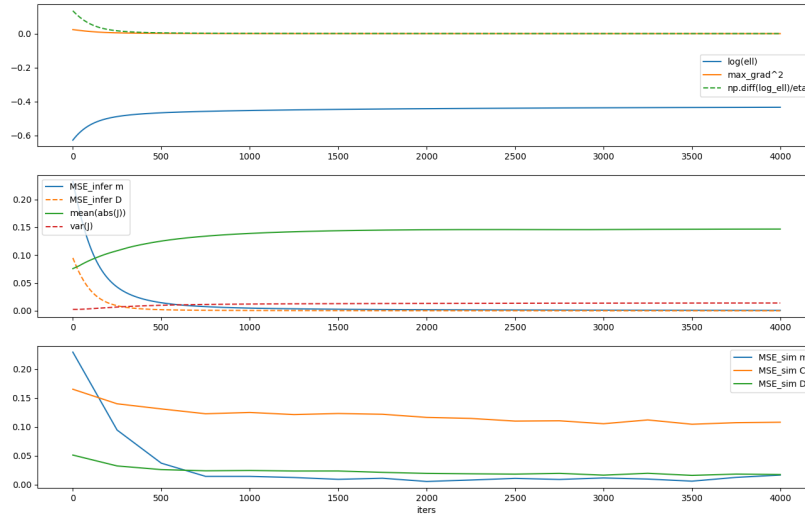

Figure 17: Seed 1185

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Figure 18: Seed 3813

Figure 19: Seed 4075

2.4.2   b size = 1

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Figure 20: Seed 2692

Figure 21: Seed 1185

2.4.3   b size = 2

Seed: [3813]. Original size: 10. Visible units: 6. Hidden units: 1. O. Simulation steps: 1500. F. Simulation steps: 1500. eta: 0.01. max_reps: 4000
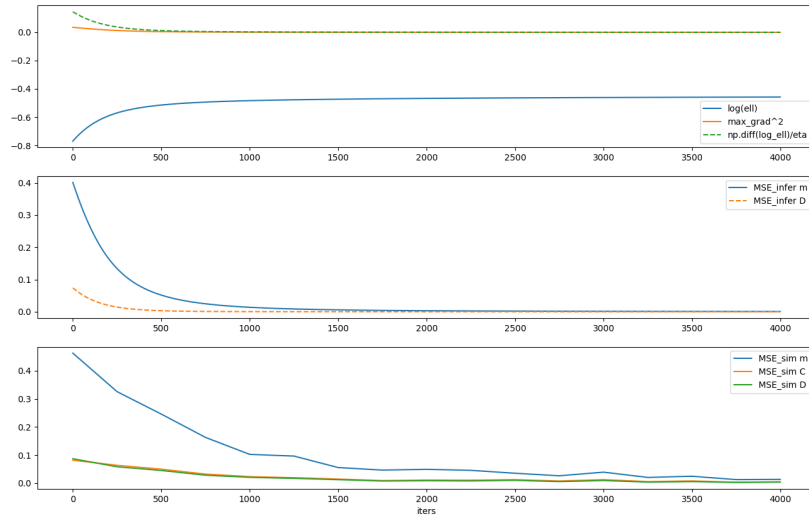

Figure 22: Seed 3813

Seed: [4075]. Original size: 10. Visible units: 6. Hidden units: 1. O. Simulation steps: 1500. F. Simulation steps: 1500. eta: 0.01. max_reps: 4000
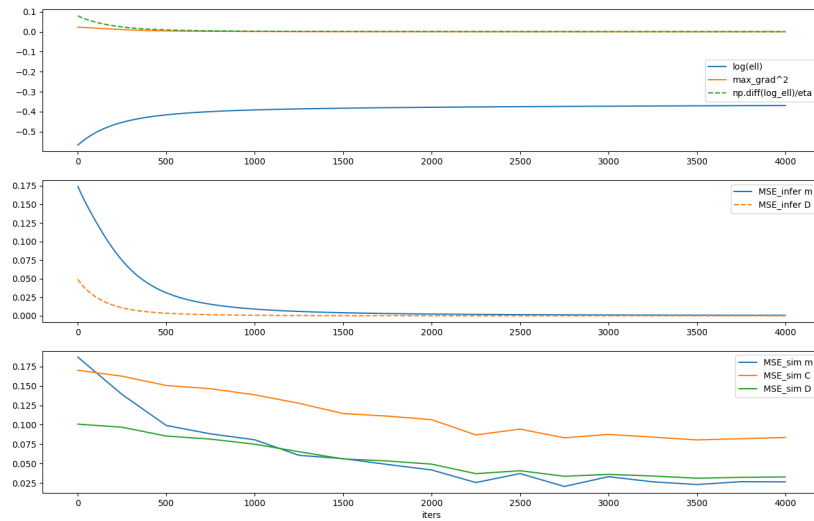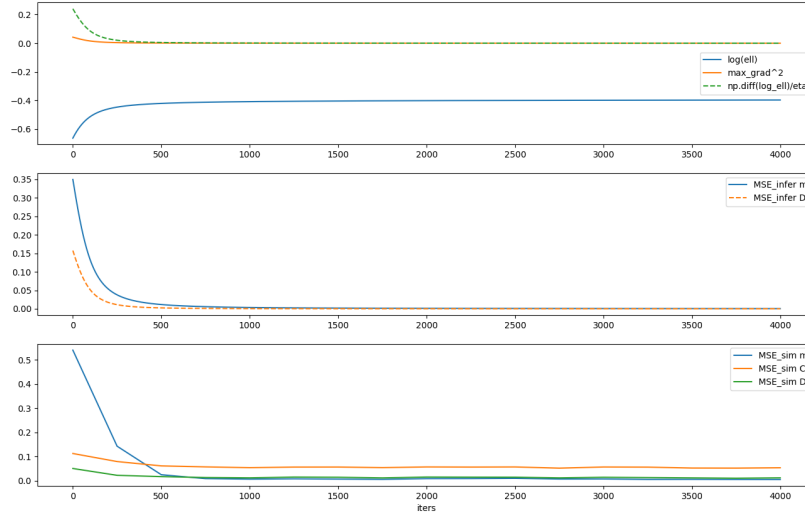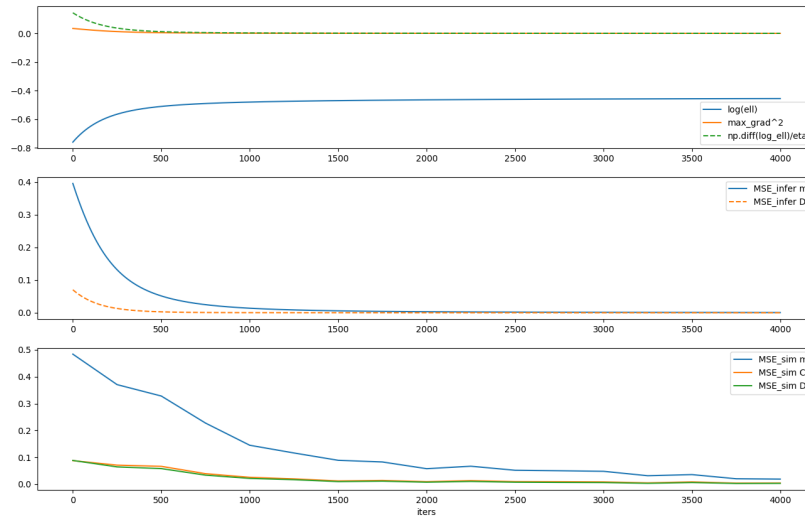

Figure 23: Seed 4075

Figure 24: Seed 2692

Figure 25: Seed 3813

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Figure 26: Seed 4075