PAIS with standard algorithms

1 Problem 1

$$\mathcal{G}(u) = u, \quad \mu_0 \sim \mathcal{N}(0, 2), \quad \mu_\varepsilon \sim \mathcal{N}(0, 0.1), \quad D = -2.67.$$

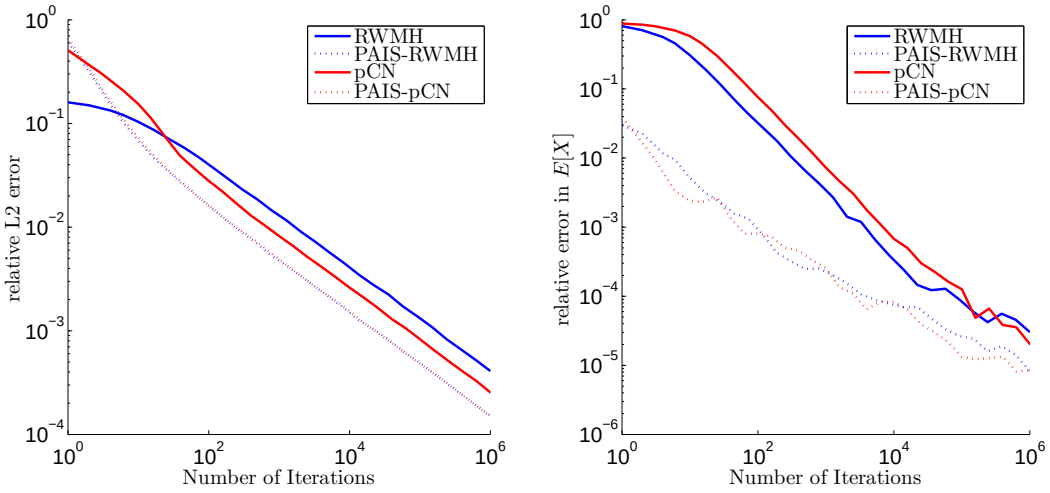

Figure 1: RWMH vs pCN algorithms and with their PAIS variants.

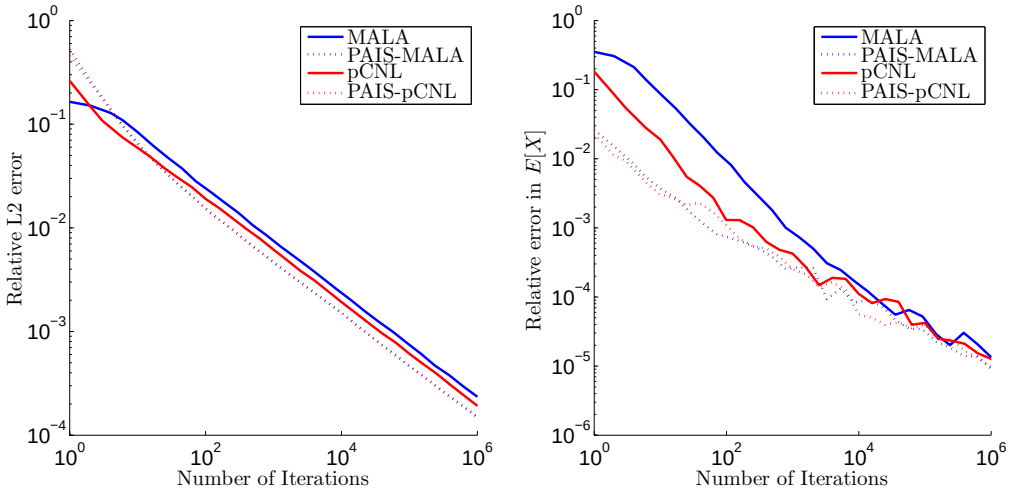

Figure 2: MALA vs pCNL algorithms and with their PAIS variants.

2 Problem 2

$$\mathcal{G}(u) = u, \quad \mu_0 \sim \mathcal{N}(0, 0.01), \quad \mu_\varepsilon \sim \mathcal{N}(0, 0.01), \quad D = 3.9980.$$

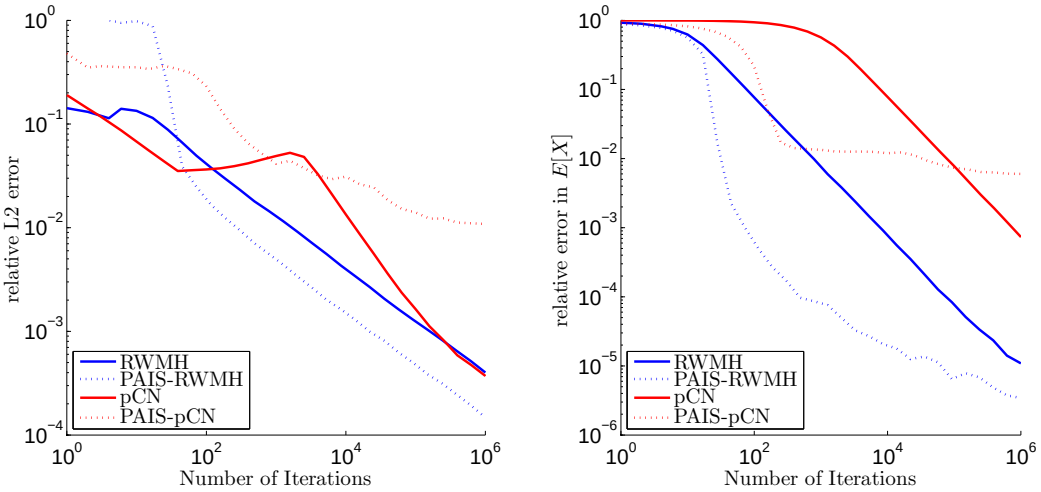

Figure 3: RWMH vs pCN algorithms and with their PAIS variants.

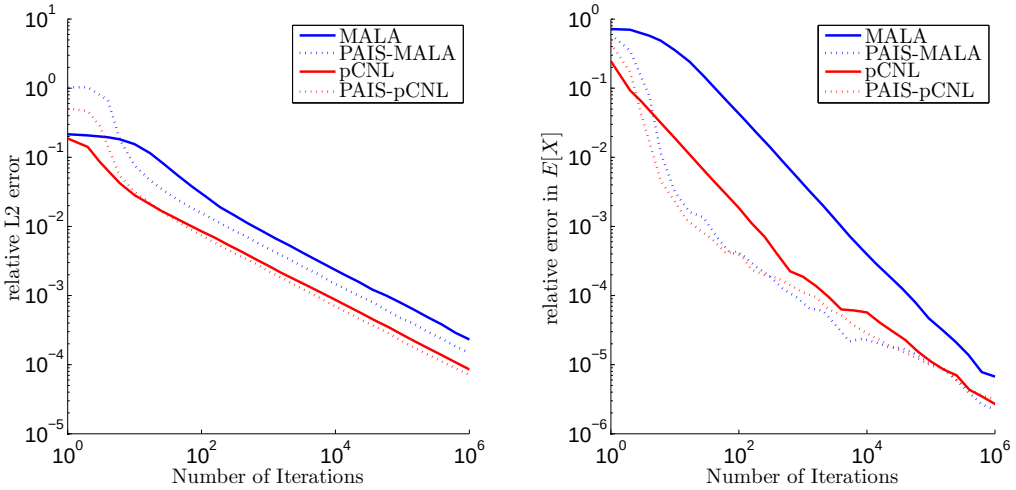

Figure 4: MALA vs pCNL algorithms and with their PAIS variants.

3 Problem 3

$$\mathcal{G}(u) = u^2, \quad \mu_0 \sim \mathcal{N}(0, 0.25), \quad \mu_\varepsilon \sim \mathcal{N}(0, 0.1), \quad D = 0.9213.$$

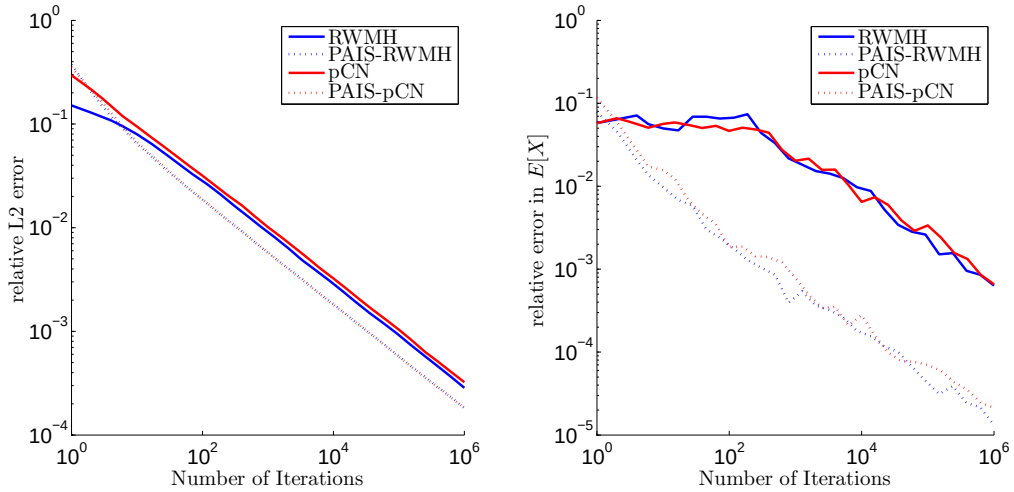

Figure 5: RWMH vs pCN algorithms and with their PAIS variants.

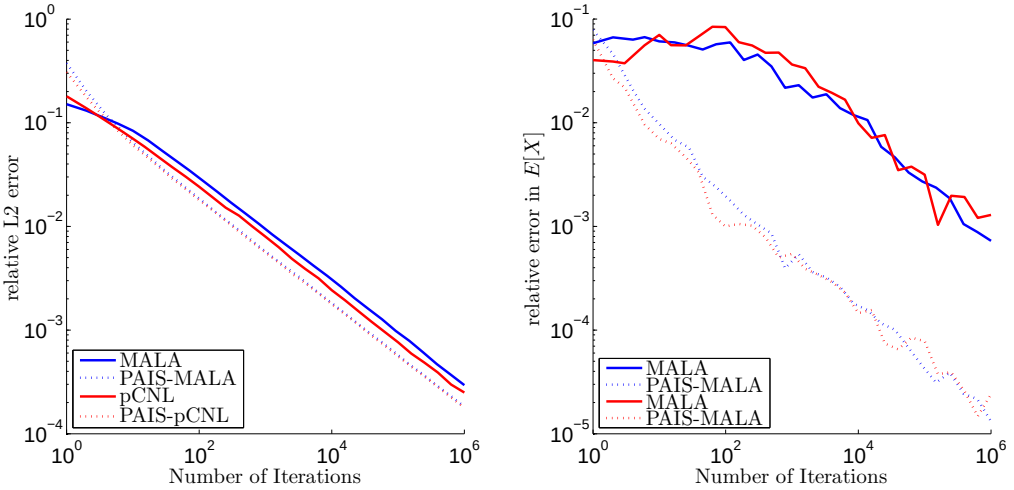

Figure 6: MALA vs pCNL algorithms and with their PAIS variants.

4 Problem 4

$$\mathcal{G}(u) = u^2, \quad \mu_0 \sim \mathcal{N}(0, 0.25), \quad \mu_\varepsilon \sim \mathcal{N}(0, 0.1), \quad D = 1.9487.$$

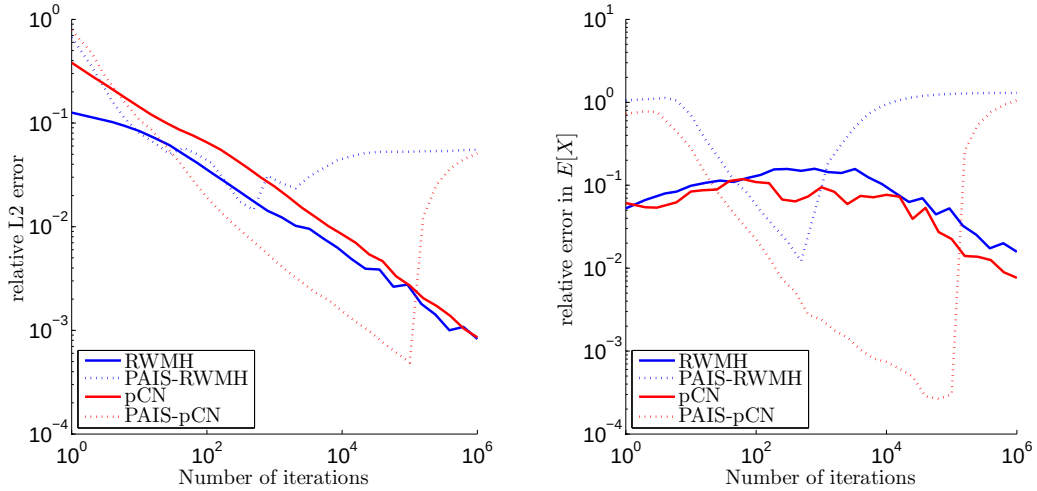

Figure 7: RWMH vs pCN algorithms and with their PAIS variants.

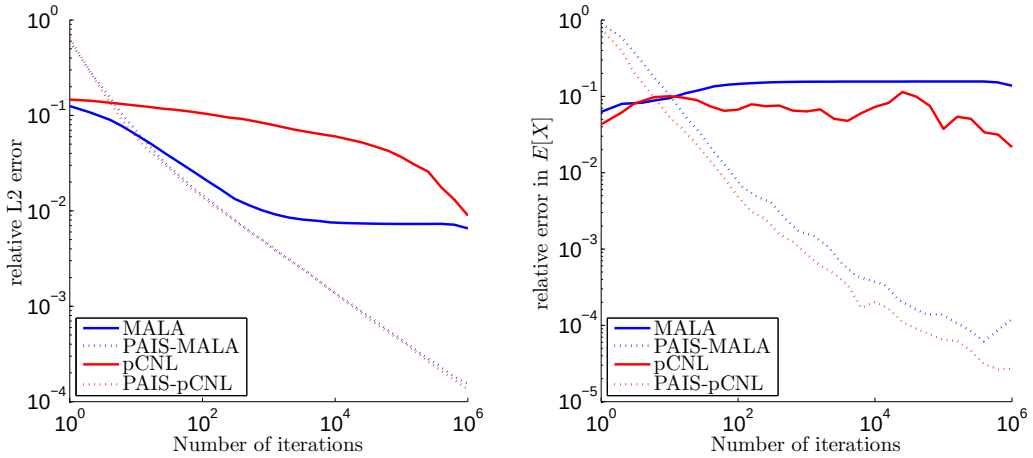

Figure 8: MALA vs pCNL algorithms and with their PAIS variants.