

$$\begin{aligned}
&N_{\rm lf} = \\
&\tilde{\alpha}_Q = \\
&\beta = \\
&\frac{5}{out_figs/pdf_pLOTS/leapfrogdiffs_{latch128}f7qw00_{eta5}[width = \\
&0.49]logdet_figs/pdf_pLOTS/avglogdets_{latch128}f7qw00_{eta5}[width = \\
&0.49]plqs_{out_figs/eps_pLOTS/plqs_{vsstep_{latch128}f7qw00_{eta5}[width = \\
&0.49]plqs_{diffs_{out_figs/eps_pLOTS/plqs_{diffs_{vsstep_{latch128}f7qw00_{eta5}(\mathbf{row}, \mathbf{column})} \\
&:\langle \delta \phi_\mu(i) \rangle| \\
&\vec{d} = \\
&\vec{d} = \\
&\frac{-1}{(\mathbf{0}, \mathbf{1})} \\
&|\mathcal{J}^{(t)}| \\
&(\mathbf{1}, \mathbf{0}) \\
&(\mathbf{1}, \mathbf{1}) \\
&|\mathcal{J}| = \\
&\sum_t \mathcal{J}^{(t)}(\mathbf{2}, \mathbf{0}) \\
&\langle \phi_P \rangle \\
&(\mathbf{2}, \mathbf{1}) \\
&\langle \phi_P \rangle
\end{aligned}$$

$$\begin{aligned}
&N_{\text{lf}} = \\
&\tilde{\alpha}_Q = \\
&\beta = \\
&6 \\
&out_figs/pdf_pLOTS/leapfrogdiffs_{l}at8_{b}atch128_{l}f7_{q}w00_{b}eta6[width = \\
&0.49]logdet_figs/pdf_pLOTS/avglogdets_{l}at8_{b}atch128_{l}f7_{q}w00_{b}eta6[width = \\
&0.49]plaqs_{out_figs/eps_pLOTS/}plaqs_{vs_step_{l}at8_{b}atch128_{l}f7_{q}w00_{b}eta6[width = \\
&0.49]plaqs_{diffs_{out_figs/eps_pLOTS/}plaqs_{diffs_{vs_step_{l}at8_{b}atch128_{l}f7_{q}w00_{b}eta6
\end{aligned}$$

$$\begin{aligned}
&N_{\text{lf}} = \\
&\tilde{\alpha}_Q = \\
&\beta = \\
&5 \\
&out_figs/pdf_pLOTS/leapfrogdiffs_{l}at8_{b}atch128_{l}f7_{q}w025_{b}eta5[width = \\
&0.49]logdet_figs/pdf_pLOTS/avglogdets_{l}at8_{b}atch128_{l}f7_{q}w025_{b}eta5[width = \\
&0.49]plaqs_{out_figs/eps_pLOTS/}plaqs_{vs_step_{l}at8_{b}atch128_{l}f7_{q}w025_{b}eta5[width = \\
&0.49]plaqs_{diffs_{out_figs/eps_pLOTS/}plaqs_{diffs_{vs_step_{l}at8_{b}atch128_{l}f7_{q}w025_{b}eta5
\end{aligned}$$

$$\begin{aligned}
&N_{\text{lf}} = \\
&\tilde{\alpha}_Q = \\
&0.25 \\
&\beta = \\
&6 \\
&_{outfigs/pdfplots/leapfrogdiffs_{latch128_{lf7_qw025_{b\eta6}}[width = \\
&0.49]logdetfigs/pdfplots/avglogdets_{latch128_{lf7_qw025_{b\eta6}}[width = \\
&0.49]plqs_{outfigs/epsplots/plqs_{vsstep_{latch128_{lf7_qw025_{b\eta6}}[width = \\
&0.49]plqs_{diffs_{outfigs/epsplots/plqs_{diffs_{vsstep_{latch128_{lf7_qw025_{b\eta6}}
\end{aligned}$$

$$\begin{aligned}
&N_{\text{lf}} = \\
&\tilde{\alpha}_Q = \\
&\beta = \\
&5 \\
&out_figs/pdf_pLOTS/leapfrogdiffs_{latch128}f7qw05_{eta5}[width = \\
&0.49]logdet_figs/pdf_pLOTS/avglogdets_{latch128}f7qw05_{eta5}[width = \\
&0.49]plqs_{out_figs/eps_pLOTS/plqs_{vstep}atch128}f7qw05_{eta5}[width = \\
&0.49]plqs_{diffs_{out_figs/eps_pLOTS/plqs_{diffs_{vstep}atch128}f7qw05_{eta5}}
\end{aligned}$$

$$\begin{array}{l}
N_{\text{lf}} = \\
\tilde{\alpha}_Q = \\
0.5 \\
\beta = \\
6 \\
\text{\textit{outfigs/pdfplots/leapfrogdiffs}_l\textit{at8}_b\textit{atch128}_l\textit{f7}_q\textit{w05}_b\textit{eta6}[width =} \\
0.49\text{\textit{logdetfigs/pdfplots/avglogdets}_l\textit{at8}_b\textit{atch128}_l\textit{f7}_q\textit{w05}_b\textit{eta6}[width =} \\
0.49\text{\textit{plaqs}_o\textit{utfigs/epsplots/plaqs}_v\textit{s}_s\textit{tep}_l\textit{at8}_b\textit{atch128}_l\textit{f7}_q\textit{w05}_b\textit{eta6}[width =} \\
0.49\text{\textit{plaqs}_d\textit{iff}_s\textit{outfigs/epsplots/plaqs}_d\textit{iff}_s\textit{s}_s\textit{tep}_l\textit{at8}_b\textit{atch128}_l\textit{f7}_q\textit{w05}_b\textit{eta6}
\end{array}$$

$$\begin{array}{l}
N_{\text{lf}} = \\
\tilde{\alpha}_Q = \\
\beta = \\
5 \\
\text{\textit{outfigs/pdfplots/leapfrogdiffs}_l\textit{at8}_b\textit{atch128}_l\textit{f7}_q\textit{w075}_b\textit{eta5}[width =} \\
0.49\text{\textit{logdetfigs/pdfplots/avglogdets}_l\textit{at8}_b\textit{atch128}_l\textit{f7}_q\textit{w075}_b\textit{eta5}[width =} \\
0.49\text{\textit{plaqs}_o\textit{utfigs/epsplots/plaqs}_v\textit{s}_s\textit{tep}_l\textit{at8}_b\textit{atch128}_l\textit{f7}_q\textit{w075}_b\textit{eta5}[width =} \\
0.49\text{\textit{plaqs}_d\textit{iff}_s\textit{outfigs/epsplots/plaqs}_d\textit{iff}_s\textit{s}_s\textit{tep}_l\textit{at8}_b\textit{atch128}_l\textit{f7}_q\textit{w075}_b\textit{eta5}
\end{array}$$

$$\begin{array}{l}
N_{\text{lf}} = \\
\tilde{\alpha}_Q = \\
0.75 \\
\beta = \\
6 \\
\text{\textit{outfigs/pdfplots/leapfrogdiffs}_l\textit{at8}_b\textit{atch128}_l\textit{f7}_q\textit{w075}_b\textit{eta6}[width =} \\
0.49\text{\textit{logdetfigs/pdfplots/avglogdets}_l\textit{at8}_b\textit{atch128}_l\textit{f7}_q\textit{w075}_b\textit{eta6}[width =} \\
0.49\text{\textit{plqs}_o\textit{utfigs/epsplots/plqs}_v\textit{s}_s\textit{tep}_l\textit{at8}_b\textit{atch128}_l\textit{f7}_q\textit{w075}_b\textit{eta6}[width =} \\
0.49\text{\textit{plqs}_d\textit{iff}_s\textit{outfigs/epsplots/plqs}_d\textit{iff}_s\textit{s}_s\textit{tep}_l\textit{at8}_b\textit{atch128}_l\textit{f7}_q\textit{w075}_b\textit{eta6}
\end{array}$$

$$\begin{aligned}
&N_{\text{lf}} = \\
&\tilde{\alpha}_Q = \\
&\frac{1}{\beta} = \\
&\frac{5}{out_figs/pdf_pLOTS/leapfrogdiffs_{l}at8_{b}atch128_{l}f7_{q}w10_{b}eta5[width = \\
&0.49]logdet_figs/pdf_pLOTS/avglogdets_{l}at8_{b}atch128_{l}f7_{q}w10_{b}eta5[width = \\
&0.49]plaqs_{out_figs/eps_pLOTS/}plaqs_{vs_step_{l}at8_{b}atch128_{l}f7_{q}w10_{b}eta5[width = \\
&0.49]plaqs_{diffs_{out_figs/eps_pLOTS/}plaqs_{diffs_{vs_step_{l}at8_{b}atch128_{l}f7_{q}w10_{b}eta5}
\end{aligned}$$

$$\begin{aligned}
&N_{\text{lf}} = \\
&\tilde{\alpha}_Q = \\
&\frac{1}{\beta} = \\
&\frac{6}{\text{out_figs/pdf_plots/leapfrogdiffs}_l\text{at8}_b\text{atch128}_l\text{f7}_q\text{w10}_b\text{eta6}[\text{width} = \\
&0.49]\text{logdet_figs/pdf_plots/avglogdets}_l\text{at8}_b\text{atch128}_l\text{f7}_q\text{w10}_b\text{eta6}[\text{width} = \\
&0.49]\text{plqs_out_figs/eps_plots/plqs}_v\text{s_step}_l\text{at8}_b\text{atch128}_l\text{f7}_q\text{w10}_b\text{eta6}[\text{width} = \\
&0.49]\text{plqs_diffs_out_figs/eps_plots/plqs_diffs}_v\text{s_step}_l\text{at8}_b\text{atch128}_l\text{f7}_q\text{w10}_b\text{eta6}
\end{aligned}$$

$$\begin{aligned}
&N_{\text{lf}} = \\
&\delta_Q = \\
&\beta = \\
&5 \\
&out_figs/pdf_pLOTS/leapfrogdiffs_{l}at8_{b}atch128_{l}f8_{q}w00_{b}eta5[width = \\
&0.49]logdet_figs/pdf_pLOTS/avglogdets_{l}at8_{b}atch128_{l}f8_{q}w00_{b}eta5[width = \\
&0.49]plaqs_{out_figs/eps_pLOTS/}plaqs_{vs_step_{l}at8_{b}atch128_{l}f8_{q}w00_{b}eta5[width = \\
&0.49]plaqs_{diffs_{out_figs/eps_pLOTS/}plaqs_{diffs_{vs_step_{l}at8_{b}atch128_{l}f8_{q}w00_{b}eta5}
\end{aligned}$$

$$\begin{aligned}
&N_{\text{lf}} = \\
&\frac{8}{\alpha_Q} = \\
&\frac{0}{\beta} = \\
&\frac{6}{\text{\textit{outfigs/pdf_plots/leapfrogdiffs_l at 8_batch128_f8_w00_eta6[width =}} \\
&0.49\text{\textit{logdetfigs/pdf_plots/avglogdets_l at 8_batch128_f8_w00_eta6[width =}} \\
&0.49\text{\textit{plqs_outfigs/eps_plots/plqs_v_step_l at 8_batch128_f8_w00_eta6[width =}} \\
&0.49\text{\textit{plqs_diffs_outfigs/eps_plots/plqs_diffs_v_step_l at 8_batch128_f8_w00_eta6}}
\end{aligned}$$

$$\begin{aligned}
&N_{\text{lf}} = \\
&\delta_Q = \\
&0.25 \\
&\beta = \\
&5 \\
&out_figs/pdf_pLOTS/leapfrogdiffs_{l}at8_{b}atch128_{l}f8_{q}w025_{b}eta5[width = \\
&0.49]logdet_figs/pdf_pLOTS/avglogdets_{l}at8_{b}atch128_{l}f8_{q}w025_{b}eta5[width = \\
&0.49]plaqs_{out_figs/eps_pLOTS/}plaqs_{vs_step_{l}at8_{b}atch128_{l}f8_{q}w025_{b}eta5[width = \\
&0.49]plaqs_{diffs_{out_figs/eps_pLOTS/}plaqs_{diffs_{vs_step_{l}at8_{b}atch128_{l}f8_{q}w025_{b}eta5
\end{aligned}$$

$$N_{\text{lf}} = \frac{8}{0.25} = 6$$

$$\begin{array}{l}
N_{\text{lf}} = \\
8 \\
\alpha_Q = \\
0.5 \\
\beta = \\
5 \\
\text{\textit{outfigs}/pdfplots/leapfrogdiffs\textit{at8atch128lf8qw05beta5}[width =} \\
0.49\textit{logdetfigs}/pdfplots/avglogdets\textit{at8atch128lf8qw05beta5}[width =} \\
0.49\textit{plqsoutfigs}/epsplots/plqs\textit{vsstepat8atch128lf8qw05beta5}[width =} \\
0.49\textit{plqsdiffsoutfigs}/epsplots/plqs\textit{diffsstepat8atch128lf8qw05beta5}
\end{array}$$

$$\begin{aligned}
&N_{\text{lf}} = \\
&\delta_Q = \\
&0.5 \\
&\beta = \\
&6 \\
&_{outfigs}/pdf_pLOTS/leapfrogdiffs_{latch128}f8qw05_{eta6}[width = \\
&0.49]_{logdetfigs}/pdf_pLOTS/avg_{logdets}_{latch128}f8qw05_{eta6}[width = \\
&0.49]_{plqs_{outfigs}/eps_pLOTS/plqs_{vsstep}_{latch128}f8qw05_{eta6}[width = \\
&0.49]_{plqs_{diffs_{outfigs}/eps_pLOTS/plqs_{diffs_{vsstep}_{latch128}f8qw05_{eta6}}
\end{aligned}$$

$$\begin{aligned}
&N_{\text{lf}} = \\
&\delta_Q = \\
&\beta = \\
&5 \\
&outfigs/pdfplots/leapfrogdiffs_{latch128}f8qw075_{beta5}[width = \\
&0.49]plqs_{outfigs}/epsplots/plqs_{vsstep}_{latch128}f8qw075_{beta5}[width = \\
&0.49]plqs_{diffs}_{outfigs}/epsplots/plqs_{diffs}_{vsstep}_{latch128}f8qw075_{beta5}
\end{aligned}$$

$$N_{\text{lf}} = \frac{8}{\alpha_Q} = \frac{0.75}{\beta} = 6$$

$$\begin{aligned}
&N_{\text{lf}} = \\
&\delta_Q = \\
&\frac{1}{\beta} = \\
&\frac{5}{\text{out_figs/pdf_plots/leapfrogdiffs}_l\text{at8}_b\text{atch128}_l\text{f8}_q\text{w10}_b\text{eta5}[width = \\
&0.49]\text{logdet_figs/pdf_plots/avglogdets}_l\text{at8}_b\text{atch128}_l\text{f8}_q\text{w10}_b\text{eta5}[width = \\
&0.49]\text{plqs_out_figs/eps_plots/plqs}_v\text{s_step}_l\text{at8}_b\text{atch128}_l\text{f8}_q\text{w10}_b\text{eta5}[width = \\
&0.49]\text{plqs_diffs_out_figs/eps_plots/plqs_diffs}_v\text{s_step}_l\text{at8}_b\text{atch128}_l\text{f8}_q\text{w10}_b\text{eta5}
\end{aligned}$$

$$\begin{aligned}
&N_{\text{lf}} = \\
&\frac{8}{\alpha_Q} = \\
&\frac{1}{\beta} = \\
&\frac{6}{\text{\textit{outfigs/pdf_plots/leapfrogdiffs_l at 8_b at ch128_l f8_q w10_b eta6[width =}} \\
&0.49\text{\textit{logdetfigs/pdf_plots/avglogdets_l at 8_b at ch128_l f8_q w10_b eta6[width =}} \\
&0.49\text{\textit{plaqs_outfigs/eps_plots/plaqs_v s_step_l at 8_b at ch128_l f8_q w10_b eta6[width =}} \\
&0.49\text{\textit{plaqs_diffs_outfigs/eps_plots/plaqs_diffs_v s_step_l at 8_b at ch128_l f8_q w10_b eta6}}
\end{aligned}$$

$$\begin{aligned}
&N_{\text{lf}} = \\
&\frac{8}{\alpha_Q} = \\
&\frac{2}{\beta} = \\
&\frac{5}{\text{outfigs/pdfplots/leapfrogdiffs}_l\text{at8}_b\text{atch128}_l\text{f8}_q\text{w20}_b\text{eta5}[width = \\
&0.49]\text{logdetfigs/pdfplots/avglogdets}_l\text{at8}_b\text{atch128}_l\text{f8}_q\text{w20}_b\text{eta5}[width = \\
&0.49]\text{plqs}_o\text{utfigs/epsplots/plqs}_v\text{s}_s\text{tep}_l\text{at8}_b\text{atch128}_l\text{f8}_q\text{w20}_b\text{eta5}[width = \\
&0.49]\text{plqs}_d\text{iffs}_o\text{utfigs/epsplots/plqs}_d\text{iffs}_v\text{s}_s\text{tep}_l\text{at8}_b\text{atch128}_l\text{f8}_q\text{w20}_b\text{eta5}
\end{aligned}$$

$$N_{\rm f} = 8\alpha_Q = 2\beta = 6_{outfigs/pdfplots/leapfrogdiffsatch128lf8qw20beta6}$$