Training and Testing Accuracies for PBC Random Walk on Synthetic Dataset, $\chi_{max}=2$, $\eta=0.05$, Fourier Encoding, 25 MPS Initialisations Using Differing Random Walk Seeds Mean Training Accuracy (PBC) \pm 1 SD 1.0 Mean Testing Accuracy (PBC) ± 1 SD 0.8 Accuracy 0.6 0.4 0.2 $-\pi/2$ $\pi/2$ -π π Phase (radians)