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 Version Four Mean Training Accuracy (PBC)  $\pm$  1 SD Mean Testing Accuracy (PBC)  $\pm 1$  SD 1.0 0.9 Accuracy 0.8 0.7 0.6  $-\pi/2$  $\pi/2$ -π π Phase (radians)