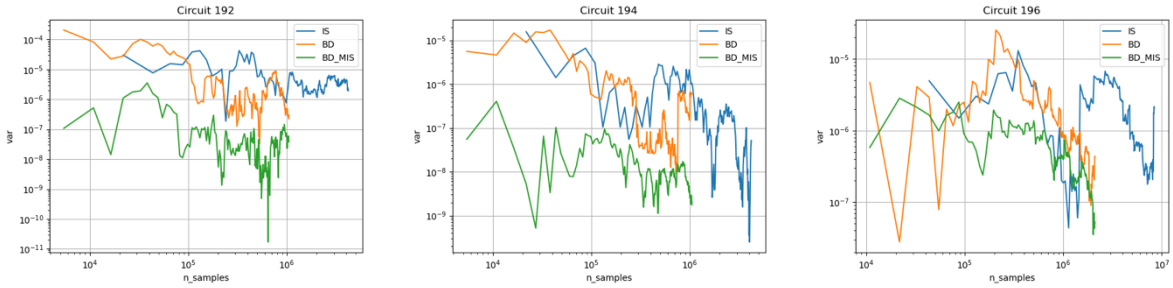
Variance Analysis

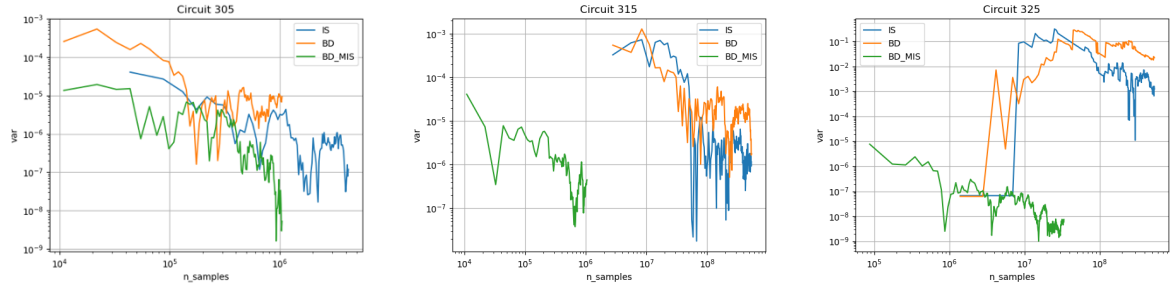
EfficientSU2 Circuits



BD_MIS is consistently better than alternatives, as expected.

There is a trend for variance to reduce with the number of samples, although not as marked as could be expected.

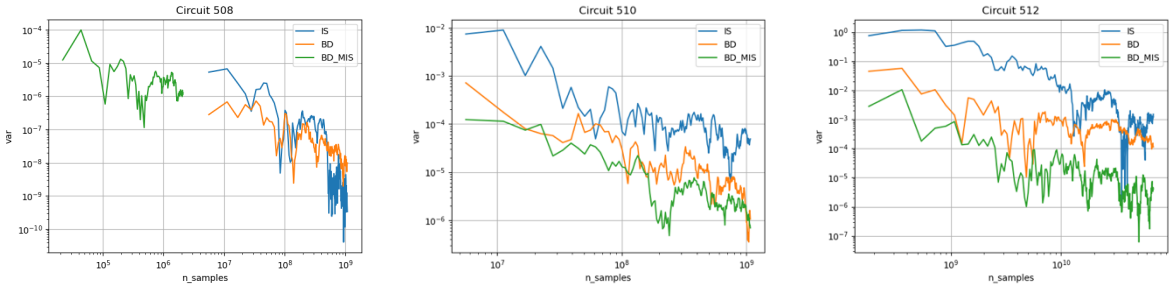
IQP Circuits



BD_MIS is clearly better than alternatives.

There is a trend for variance to reduce with the number of samples, although not as marked as could be expected

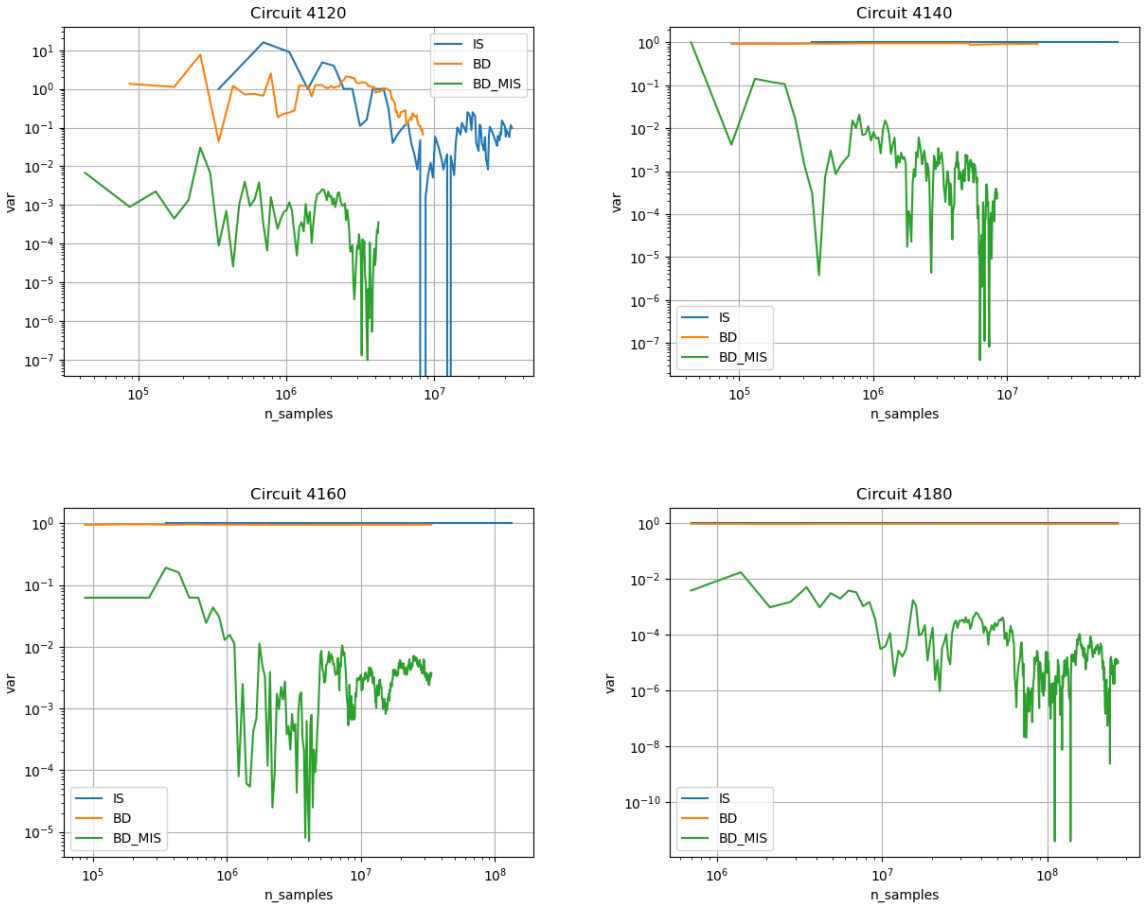
Random Circuits



BD_MIS performs better than alternatives.

There is a trend for variance to reduce with the number of samples.

Hidden Shift Circuits (up to 80 qubits)



Only BD_MIS converges.

Is there a reduction on variance as the number of samples increases?

Large Hidden Shift Circuits