

using online arithmetic for all input types. The geometric mean reduction varies from 97.3% to 98.2%. In addition, larger differences of MRE reduction can be achieved in practice, as long chains occur with even smaller probabilities with real data. Similarly from Table ??, the differences in SNR are $21.4dB \sim 43.9dB$.

$$\frac{MRE_{Trad} - MRE_{OL}}{MRE_{Trad}} \times 100\% \quad (1)$$