

Figure 1 is a log-linear plot showing the relative error of the numerical solution versus the number of grid points  $N$ . The y-axis is logarithmic, ranging from 0.95 to 1.00. The x-axis is linear, ranging from  $10^3$  to  $10^4$ . Two data series are plotted: 'with error' (red dots) and 'without error' (black dots). Both series show a decreasing trend in relative error as  $N$  increases. The 'with error' series is consistently higher than the 'without error' series. A horizontal line is drawn at  $y=1.00$ . A vertical line is drawn at  $N=10^{3.5}$ .