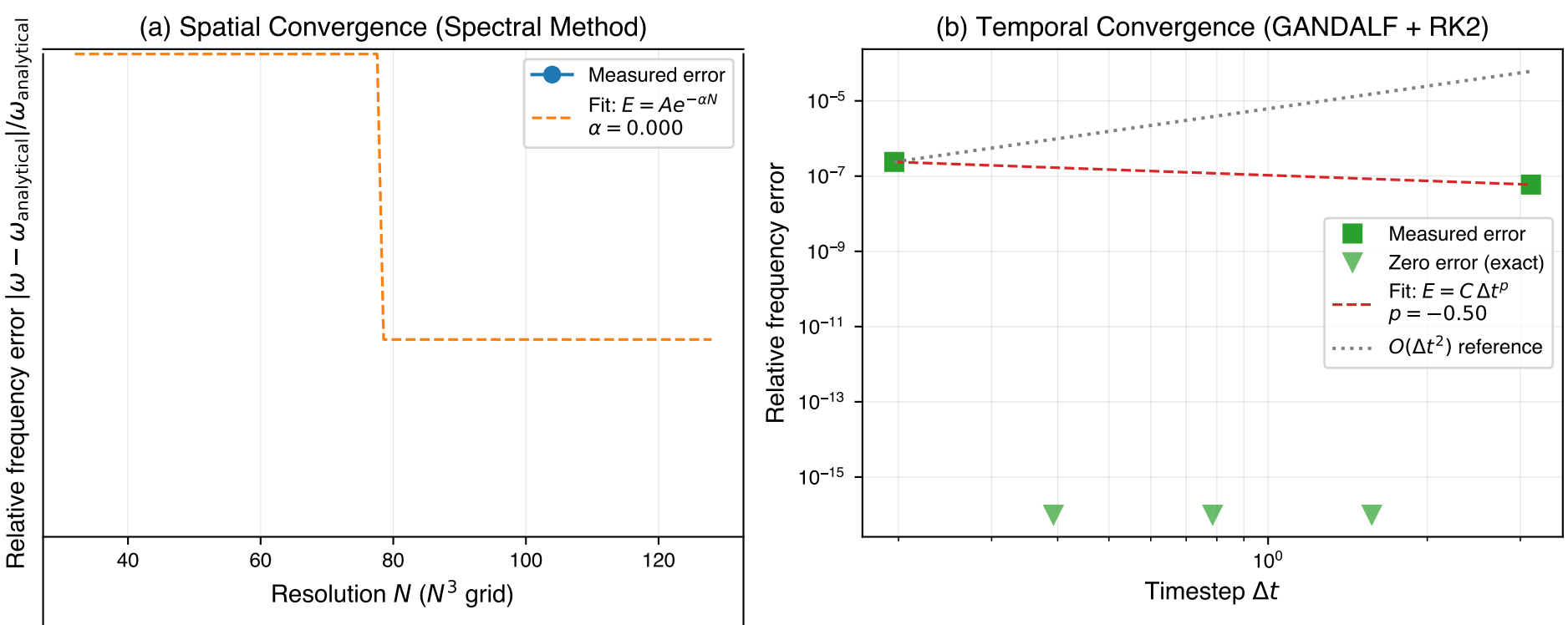
(a) Spatial Convergence (Spectral Method)
Measured error
Fit: $E = Ae^{-\alpha N}$
$\alpha = 0.000$
Relative frequency error $|\omega - \omega_{\text{analytical}}|/\omega_{\text{analytical}}$
40
60
80
100
120
Resolution N (N^3 grid)
(b) Temporal Convergence (GANDALF + RK2)
Measured error
Zero error (exact)
Fit: $E = C\,\Delta t^p$
$p = -0.50$
$O(\Delta t^2)$ reference
Relative frequency error
10^{-5}
10^{-7}
10^{-9}
10^{-11}
10^{-13}
10^{-15}
10^{0}
Timestep Δt