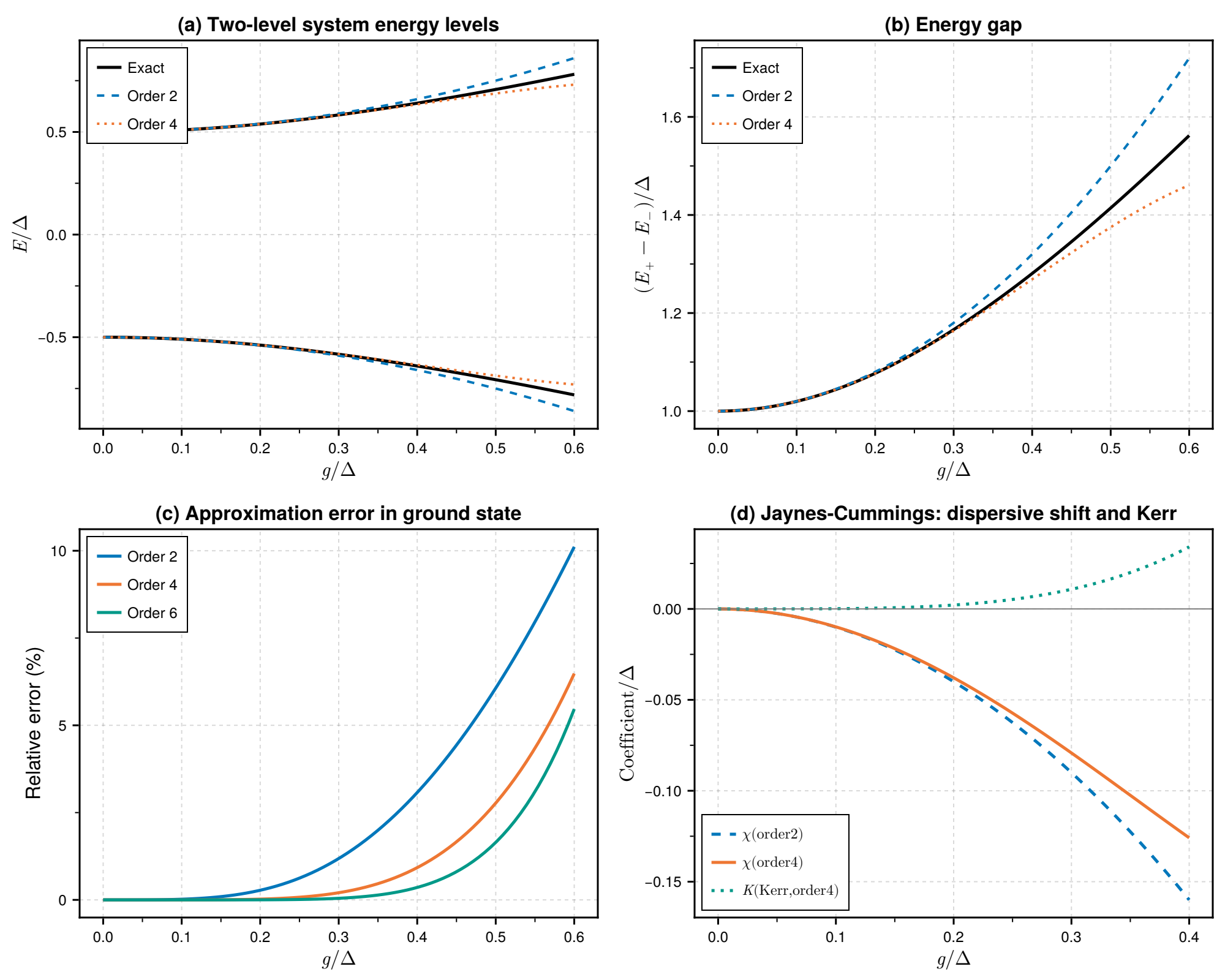
(a) Two-level system energy levels
Exact
Order 2
Order 4
E/Δ
g/Δ
(b) Energy gap
Exact
Order 2
Order 4
$(E_+ - E_-)/\Delta$
g/Δ
(c) Approximation error in ground state
Order 2
Order 4
Order 6
Relative error (%)
g/Δ
(d) Jaynes-Cummings: dispersive shift and Kerr
χ(order2)
χ(order4)
K(Kerr,order4)
Coefficient/Δ
g/Δ