

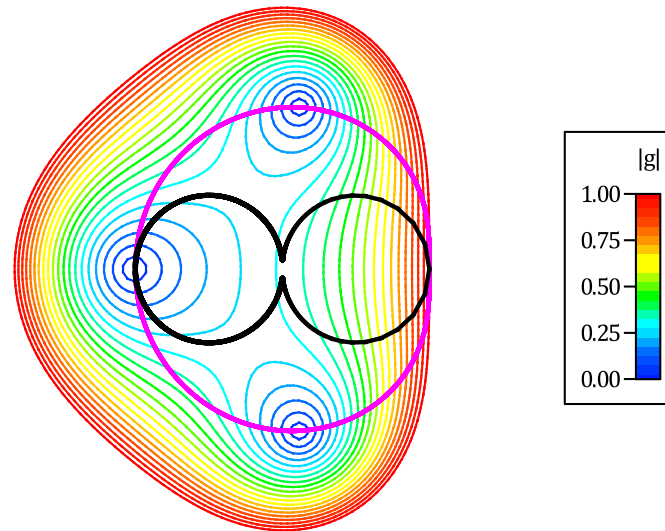
Explicit (3,3)-scheme, convection equation

Base scheme: 2nd-order upwind spatial discretization, $\sigma = 0.69$.

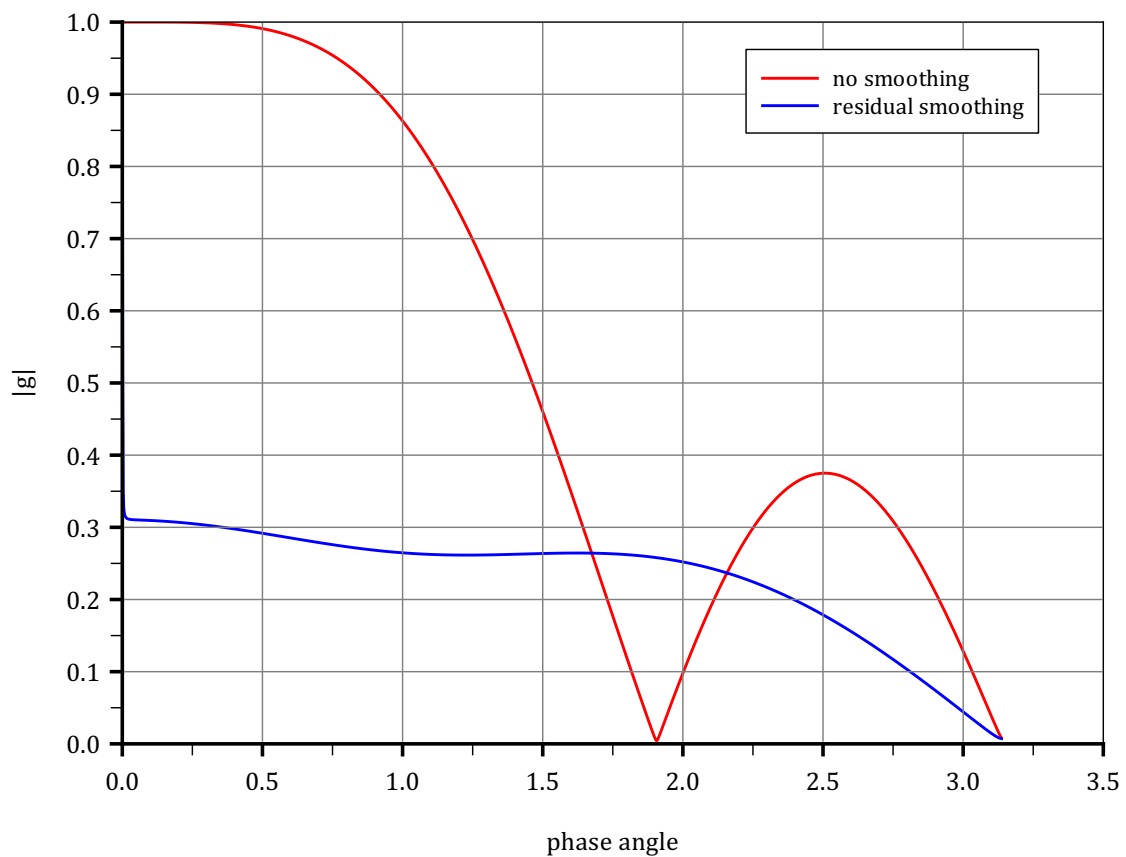
Scheme with upwind residual smoothing: $\sigma = 690.7$, $\varepsilon = 500$.

Fourier symbol:

- no residual smoothing
- with implicit smoothing



Fourier symbol z of the spatial operator and contours of the magnitude of the amplification factor $|g|$.



Magnitude of the amplification factor $|g|$ over the phase angle φ .