

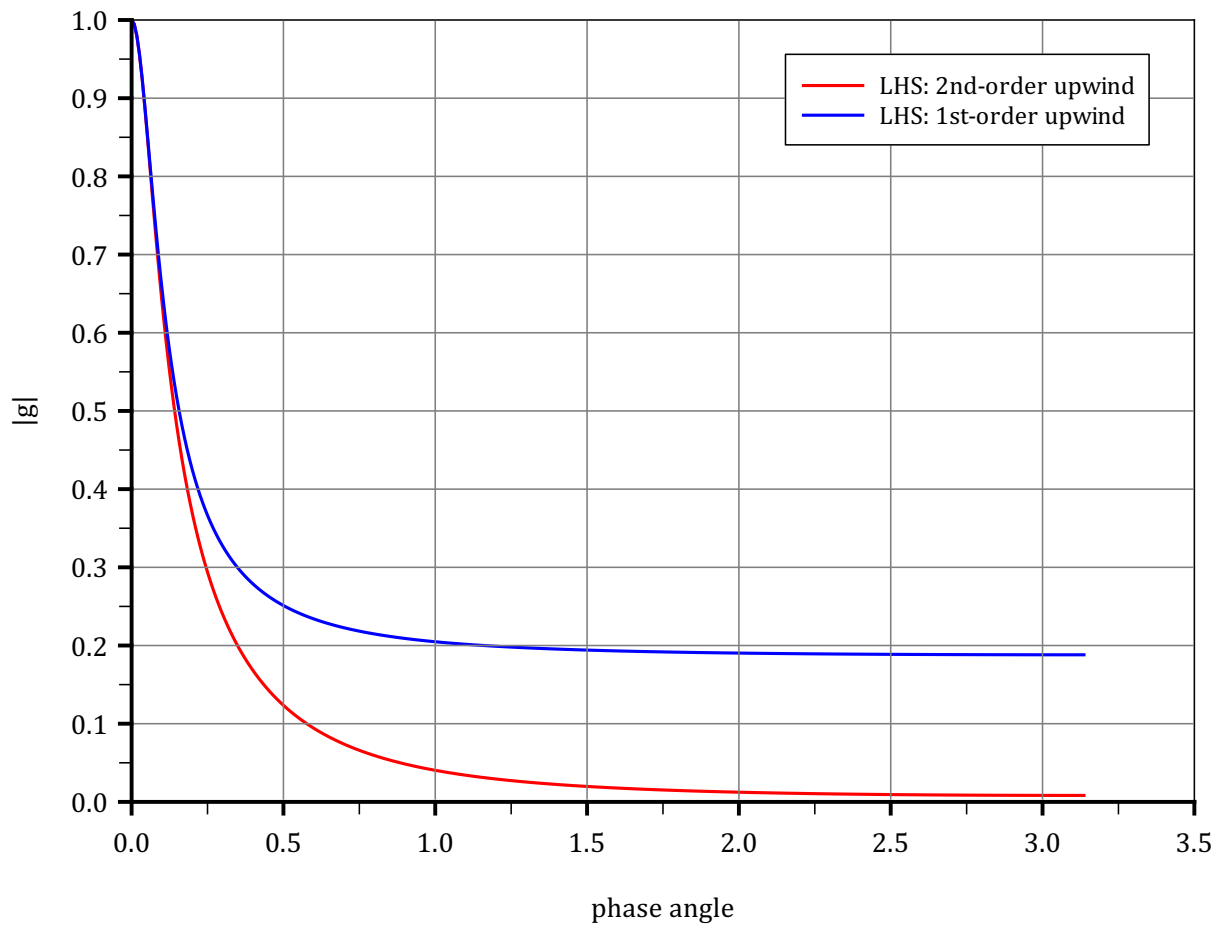
## Implicit time stepping, convection-diffusion equation

### Scheme 1:

Explicit and implicit operators discretized using 2nd-order upwind scheme,  $\sigma = 10$ ,  $\Lambda_v/\Lambda = 2.0$ .

### Scheme 2:

Explicit operator discretized using 2nd-order upwind scheme, implicit operator using 1st-order upwind scheme,  $\sigma = 10$ ,  $\Lambda_v/\Lambda = 2.0$ .



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