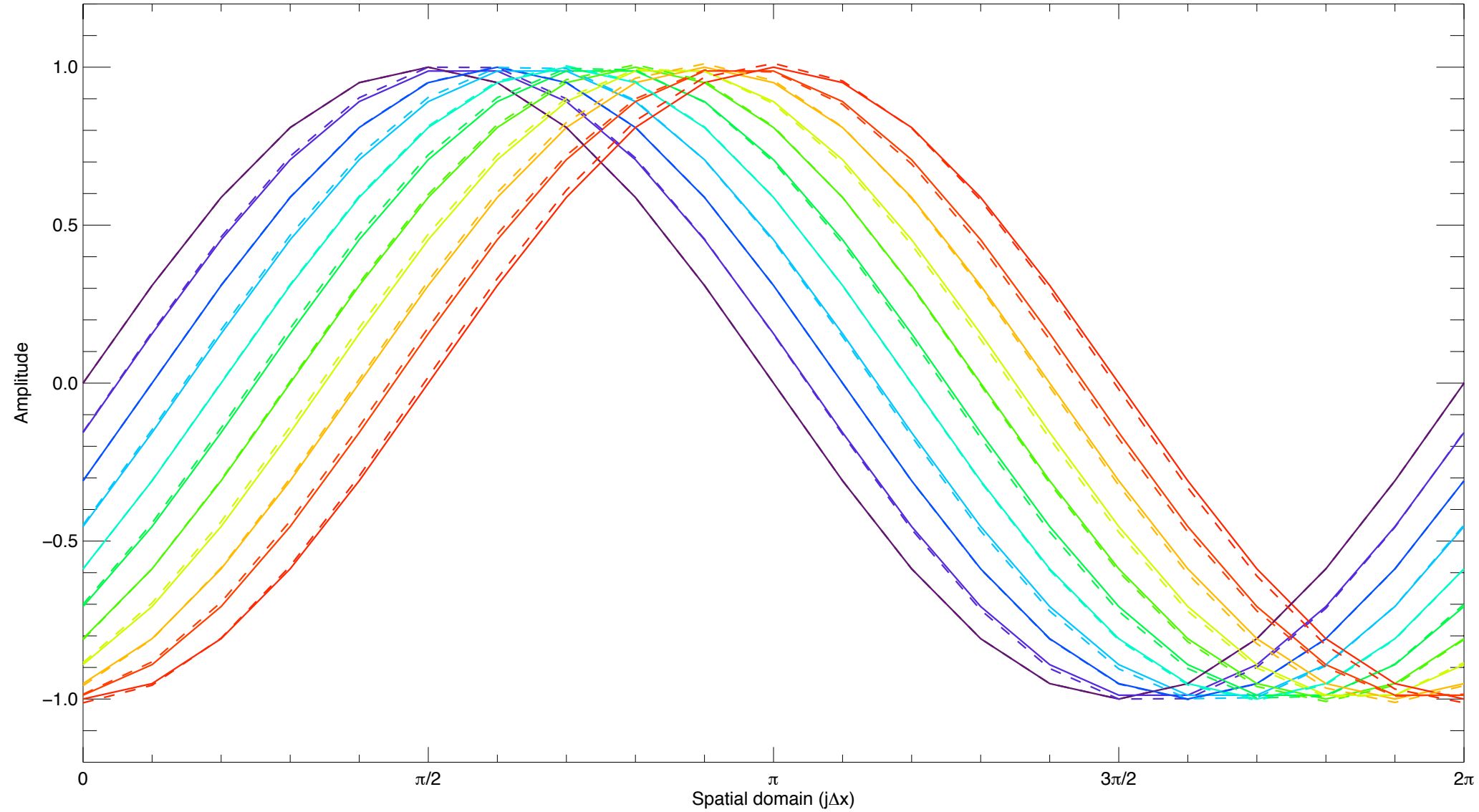


Fig. 1. Advection equation: leapfrog time differencing, 2nd order space differencing; IVP:  $u(x,0)=\sin(mx)$ ,  $m=1$ ,  $s=0.5$ ,  $\Delta x=\pi/10$ ,  $dt=0.1571$ ,  $c=1.0$



Exact	—
Numerical	- - -

$n\Delta t$ :

$n=0$

$n=1$

$n=2$

$n=3$

$n=4$

$n=5$

$n=6$

$n=7$

$n=8$

$n=9$

Colors refer to both solutions