

$\psi_t$ 

Gram-Fourier extension

Time evolution

 $\psi_{t+1}$ 

Physical domain

Extension domain

Compute Gram-Fourier extension  
using information from  
extension boundary

$$\text{FFT} \times \exp\left(-\alpha \cdot \left(\frac{k}{k_{\max}}\right)^{2p}\right) \times \sum_{n=0}^{N_{\text{taylor}}} \frac{(C \cdot k^2)^n}{n!} \times \text{IFFT}$$

Discard extension domain  
and ghost boundary

— Real  
— Imag  
Ghost boundary

Extension boundary

Discard

