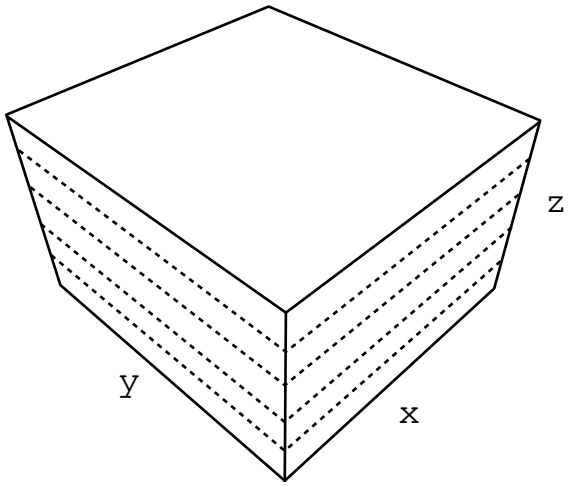
PARALLEL CODE: DOMAIN DECOMPOSITION 2

CO−ORDINATE (CONFIGURATION) SPACE:

Spatial fields, nonlinear terms, I/O, boundary conditions




```
REAL :: field( nx, ny, nz )

field( x, y, my_z%min:my_z%max )
```

EXAMPLE:

```
v(:,:,1) = 4./3 * ua(:,:,1) - 1./3 * ua(:,:,2)

Do k = my_z%min, my_z%max
   cwork1(:,:,k) = cwork1(:,:,k) + u(:,:,k)*mean_temperature(k)
End Do
```

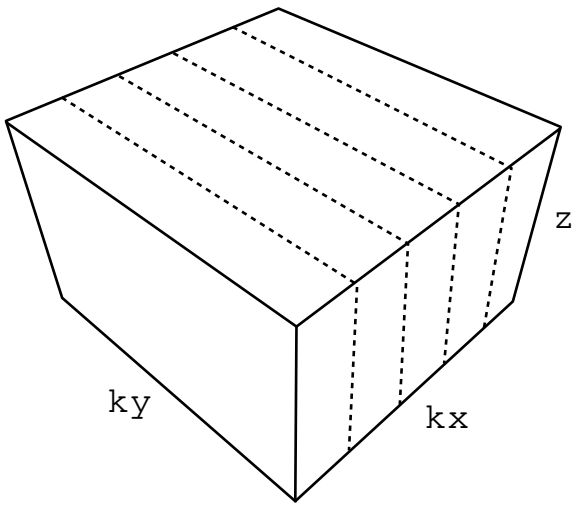
SPECTRAL (FOURIER/PHASE) SPACE:

Almost everything! Spectrall fields, derivatives, linear terms, implicit solves, all updating.

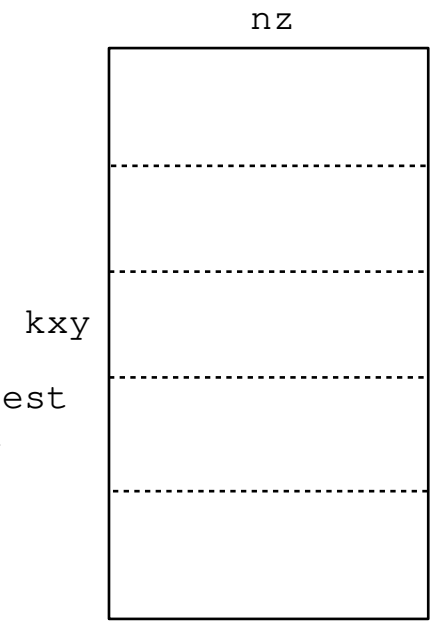
```
COMPLEX :: field( nz, nxy_dealias )

field( nz, my_k%min:my_k%max )
```

SCHEMATICALLY ...



ACTUALLY ...



- ky fastest
- then kx

EXAMPLE:

```
density%rhs      = density%current + cc1*density%force

Do k = my_k%min, my_k%max
  poloidal%rhs(:nz,k)  = poloidal%current(:nz,k) + fint1(k)*poloidal%force(:nz,k)
End Do
```