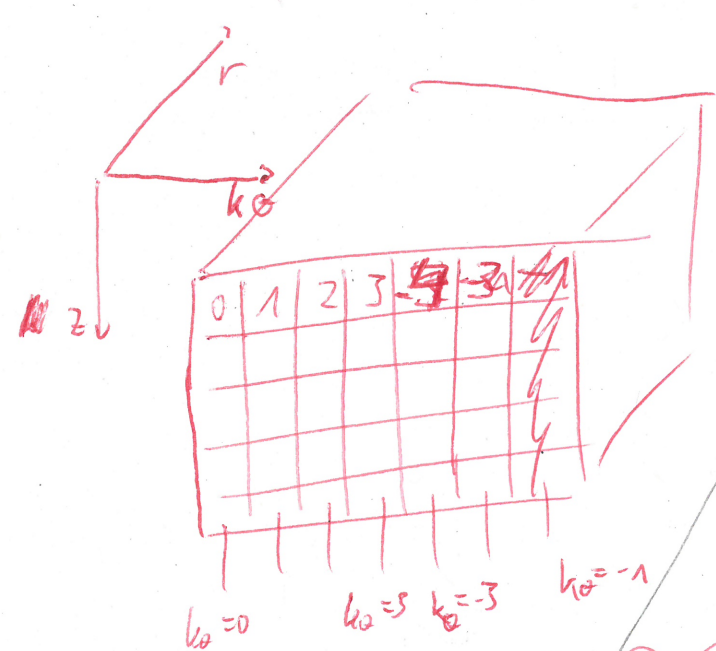


a real-valued velocity field, e.g.  $U_z = f(r, \theta, z)$

$\vec{U} = \begin{bmatrix} U_r \\ U_\theta \\ U_z \end{bmatrix}$  in general  $\vec{U} = f(r, \theta, z, t)$

1st FFT<sub>θ</sub> (real-to-complex transform)

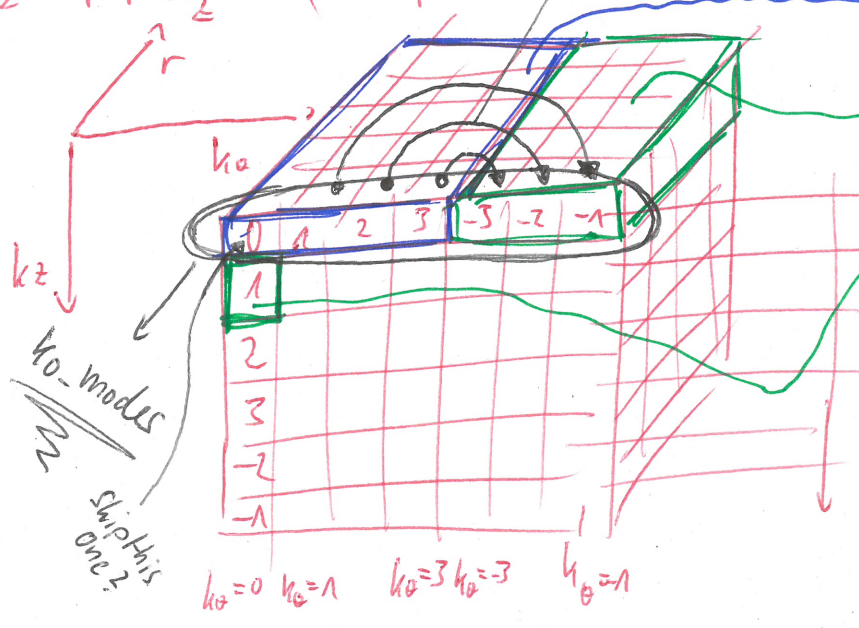


What we want is something like this, I guess to enforce symmetry:

eg:  $\hat{U}_\theta(r, k_\theta = -2, k_z = 0) = \hat{U}^*(r, k_\theta = 2, k_z = 0)$

\* = complex conjugate

2nd FFT<sub>z</sub> (complex-to-complex transform)



(mp-f, m-r) process #1

(mp-f, m-r) process #2