

Exercise 4 bis

Inversion of facular profiles in quiet Sun.

Advanced Stokes Polarimeter (HAO) observations, averaged over facular region, SNR~10000, but poor spatial resolution.

Two lines Fe I 630.1 and 630.2 nm (plus telluric lines!) .

Strong signals, large Stokes V area and amplitude asymmetries.

1. What kind of model would you use to invert them?
2. Use two cycles, increasing number of nodes in 2nd cycle.
3. Invert stray-light fraction, micro- and macro-turbulence.

We invert Stokes I and V only, **so vertical fields should be assumed.**

Use large negative number (e.g., -2) in profiles to ignore blends in Stokes I during inversion .

Use instrumental PSF and macroturbulence at the same time.

Use stray light profile.

Use weights of 10 and 100 for Stokes V.