

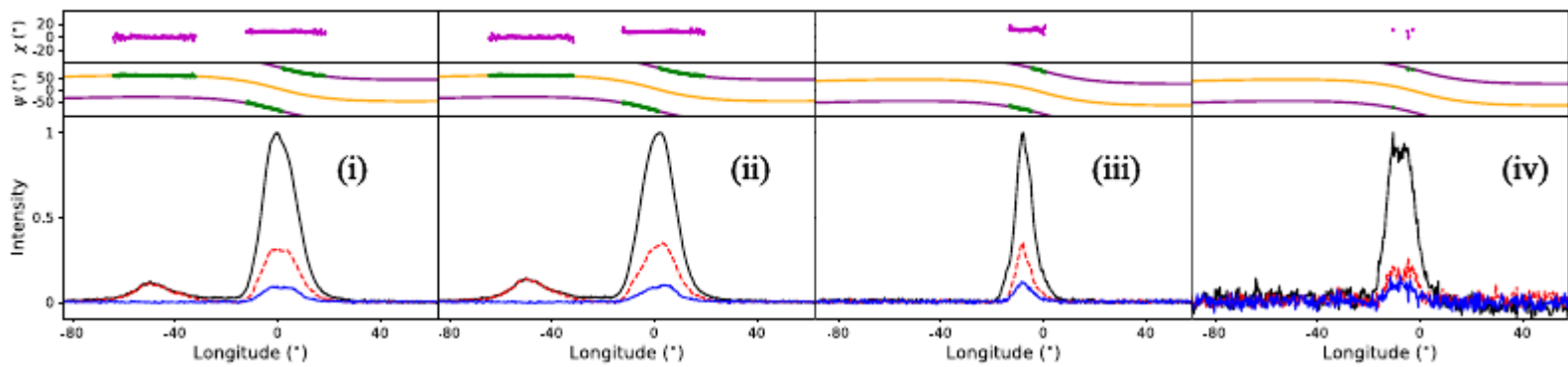
Jarosław Dyks, Zjazd CAMK 2024/25

Publication:

Cao, Shunshun; Jiang, Jinchun; Dyks, J., Hao, Longfei; Lee Keija; et al. 2024, PSR B0943+10: Mode Switch, Polar Cap Geometry, and Orthogonally Polarized Radiation; ApJ, 973, 56

Submitted:

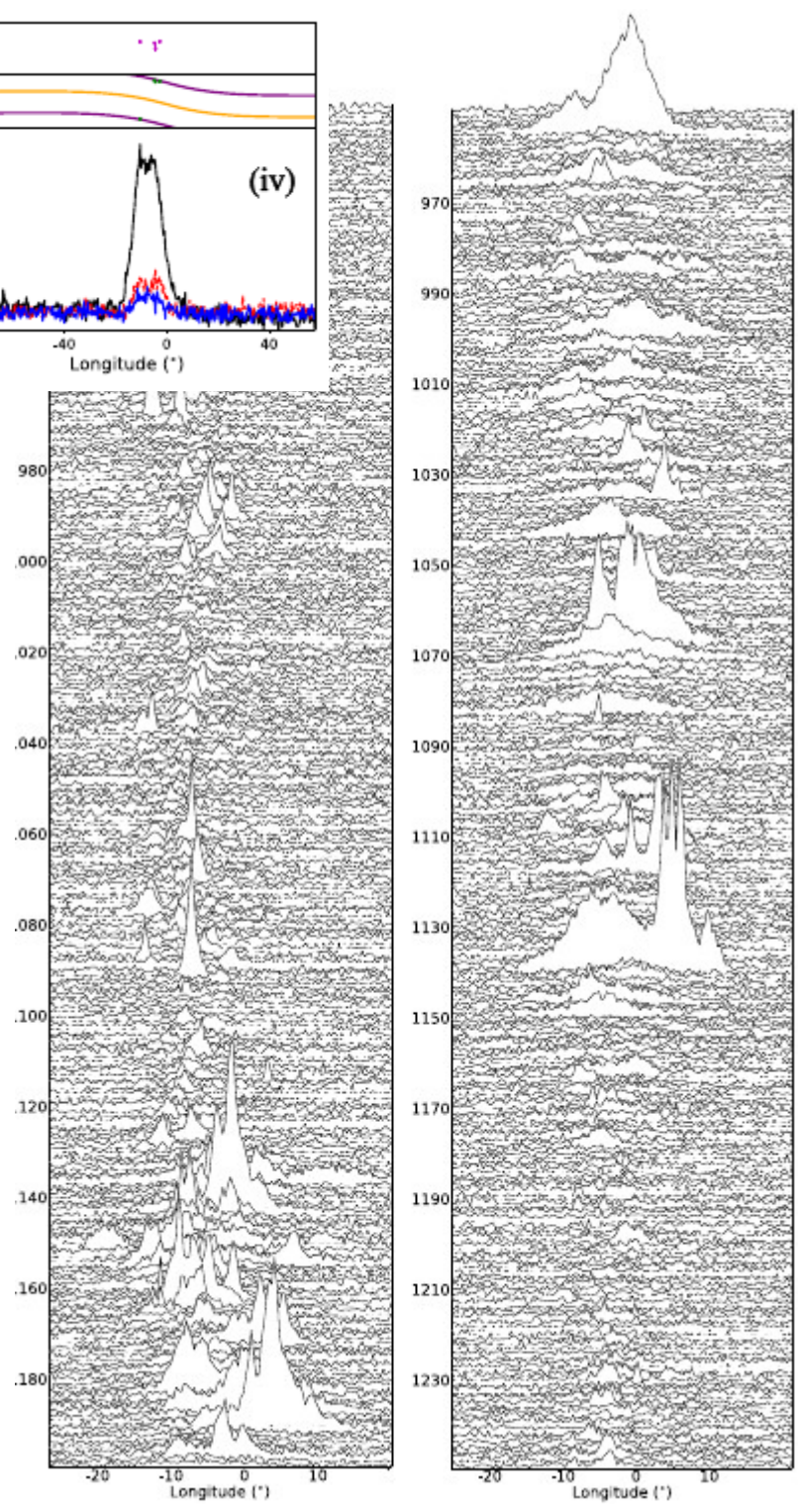
Cao, Shunshun; Jiang, Jinchun; Dyks, J.; Lee Keija; Lu, Jiguang; et al. 2025, Rapid rotation of polarization orientations in PSR B1919+21's single pulses: implications on pulsars's magnetospheric dynamics

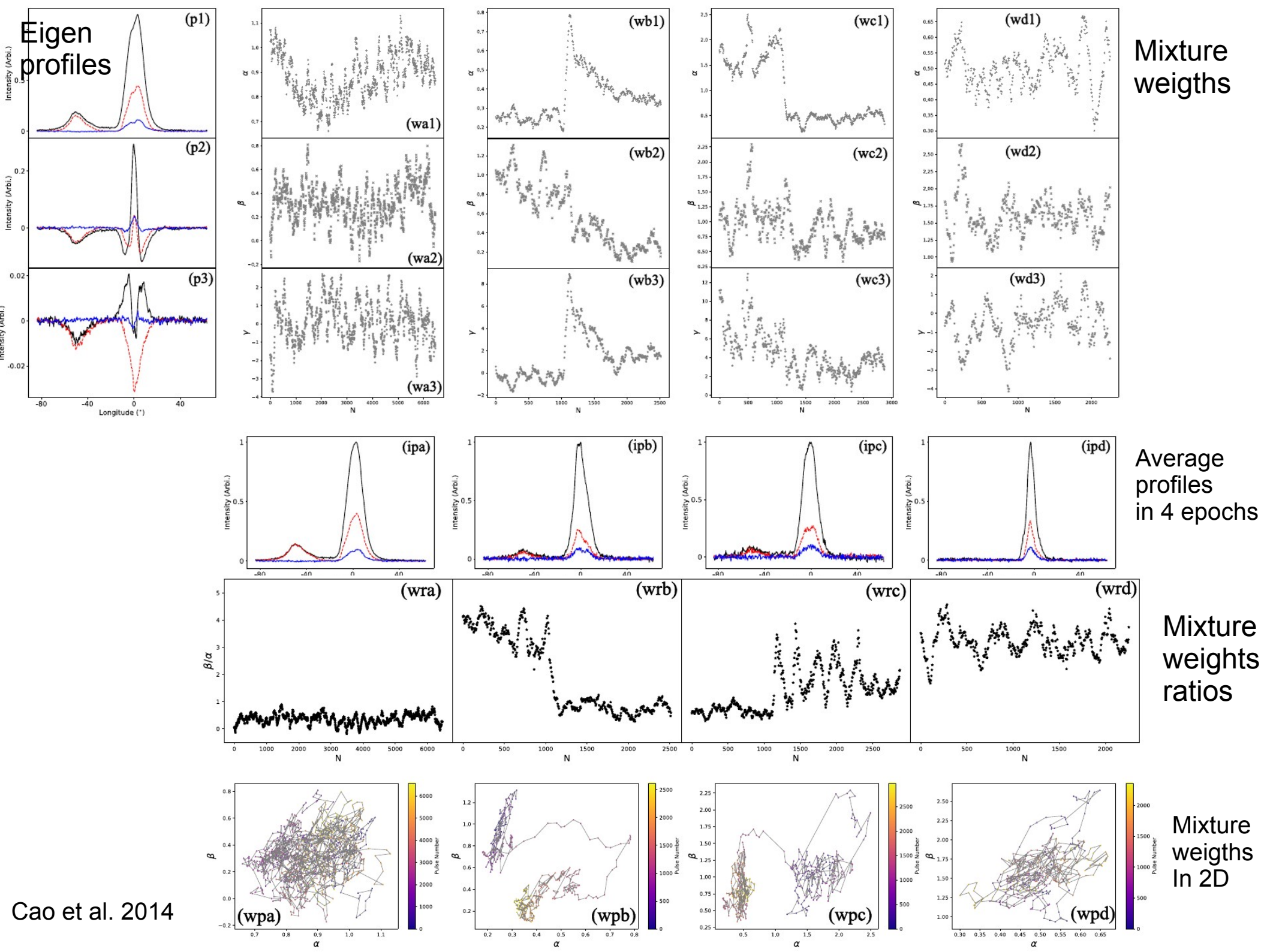


Average pulse profiles in different pulsation modes

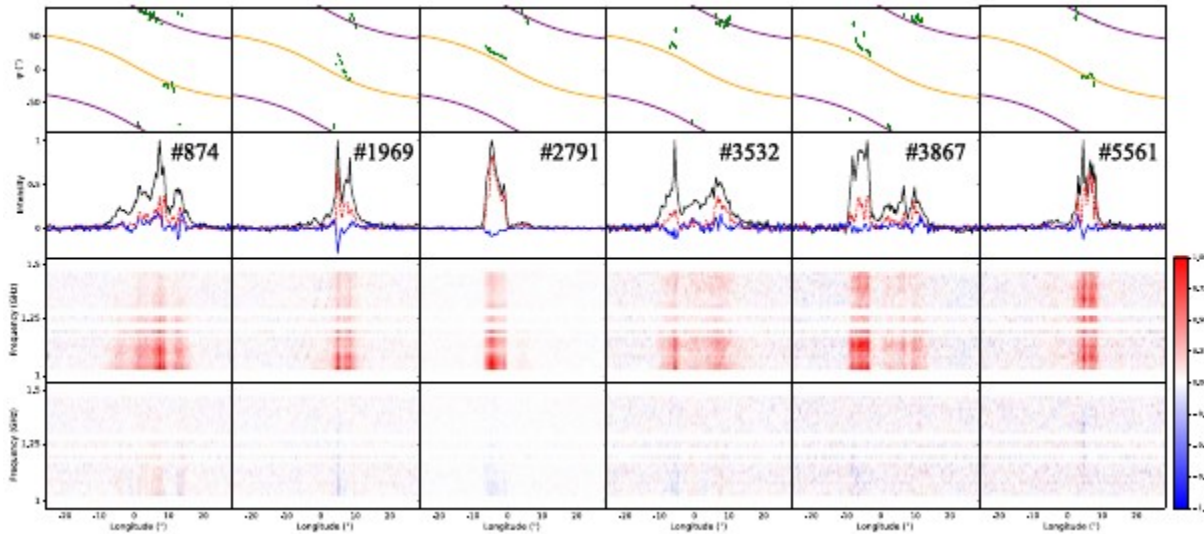
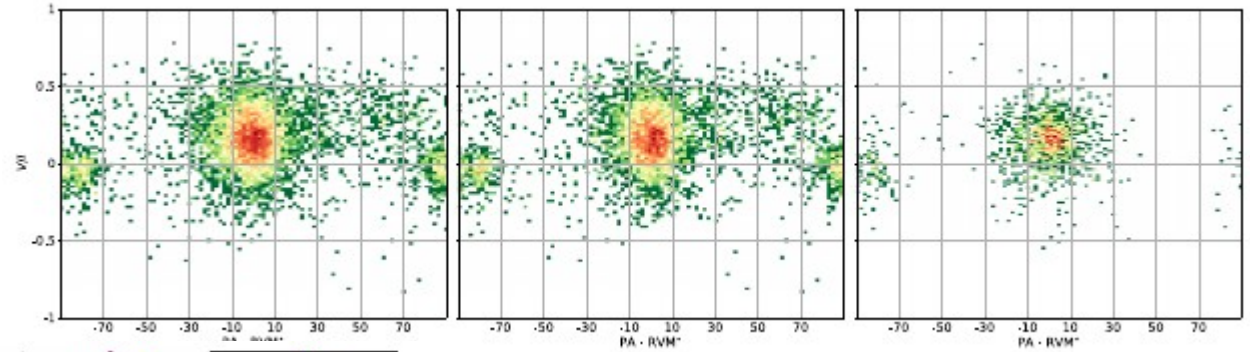
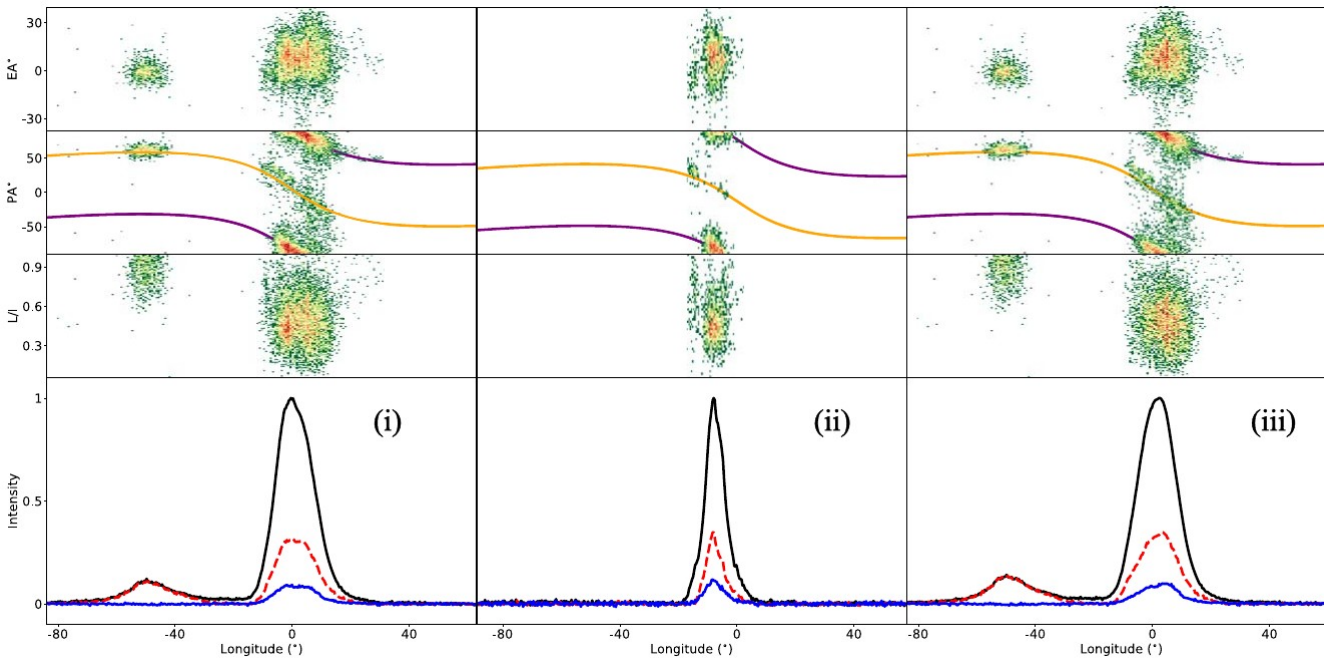
Cao et al. 2025
 PSR B0943+10

Single pulses:
 (real time flux variations)





Single pulse polarization in different pulsation modes



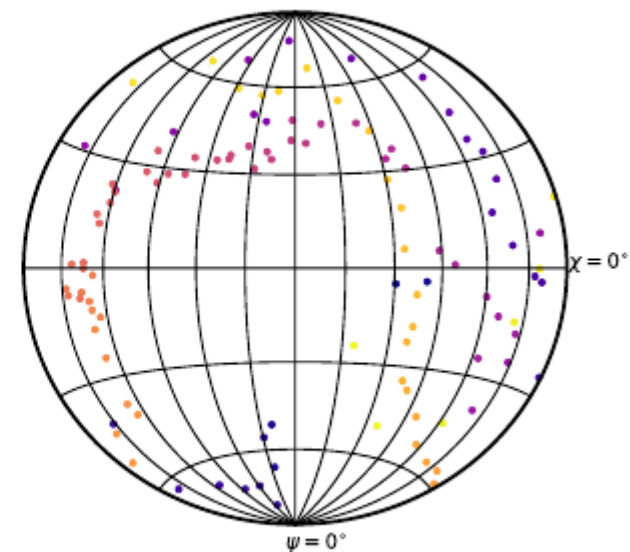
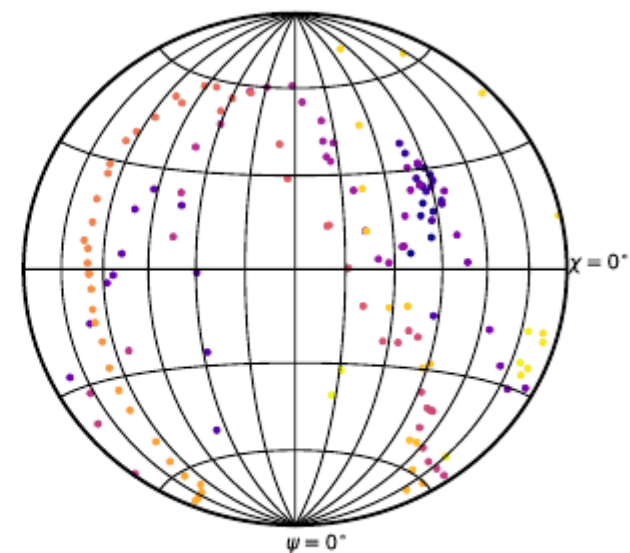
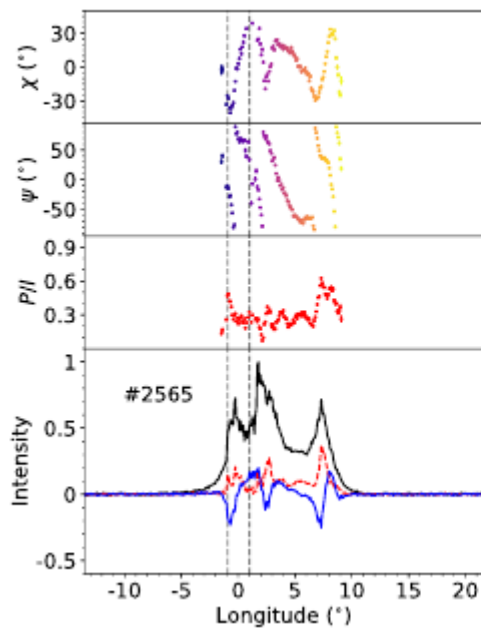
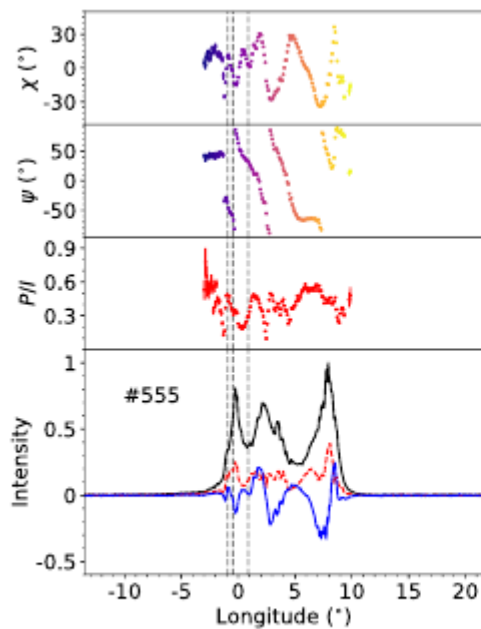
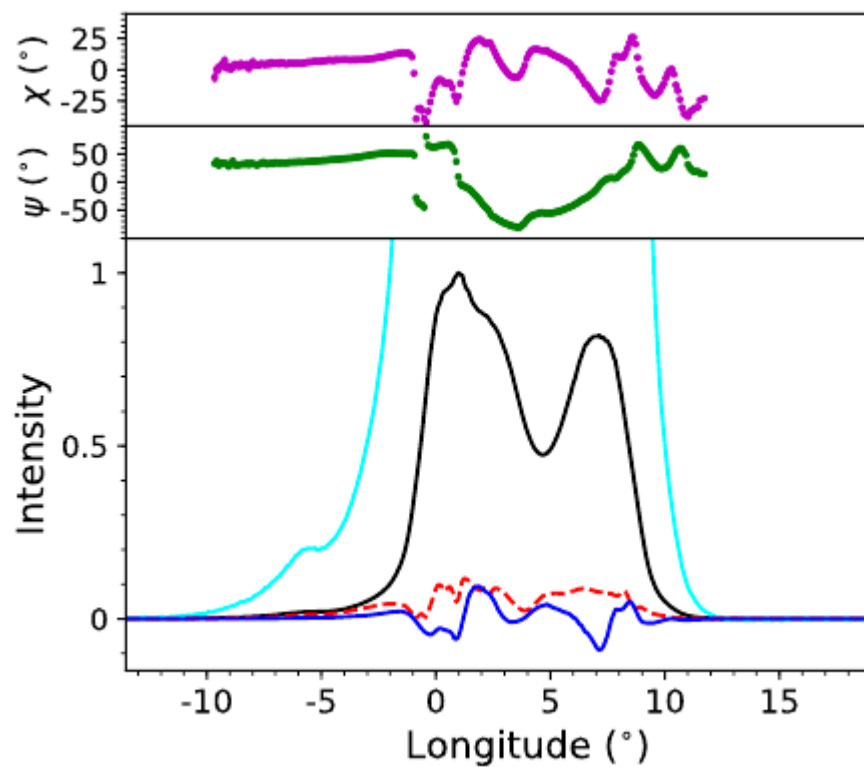
Cao et al. 2025

+

emission geometry
radio spectrum

B1919+21 (Jocelyn Bell's pulsar):

PA rotations by more than 360 deg!



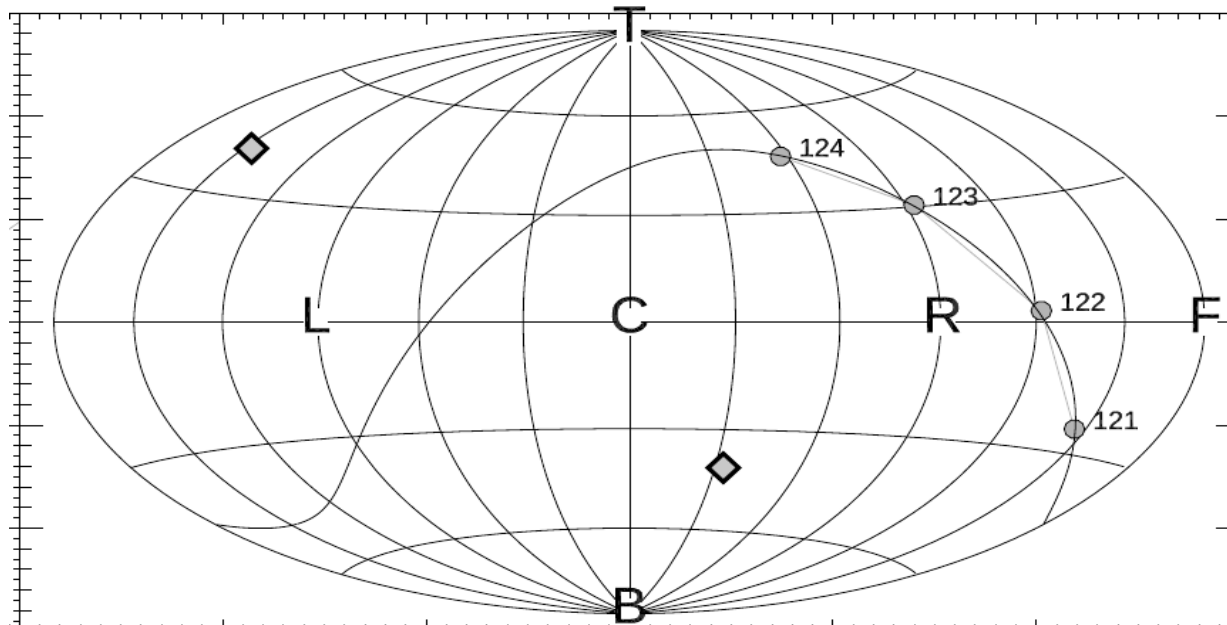
Two opposite limiting-case interpretations:

1. generalized Faraday rotation (driven by phase lag between pol. modes)
2. coherent orthogonal polarization mode transitions
(driven by rotating polarization of input signal propagating through the birefringent medium)

Beijing is far away:

while I was developing option 2 (finding important geometric arguments for it),
a paper based on option 1 has already been written

(Then quickly submitted, and the first reaction of the reviewer was “what about option 2?”)



Not even a wristwatch allowed near FAST (RFI!) => my last photo on photographic-film was made one month ago (with Prof. Wei Wei Zhu)

