

Driving mechanisms for mass loss from AGB stars:

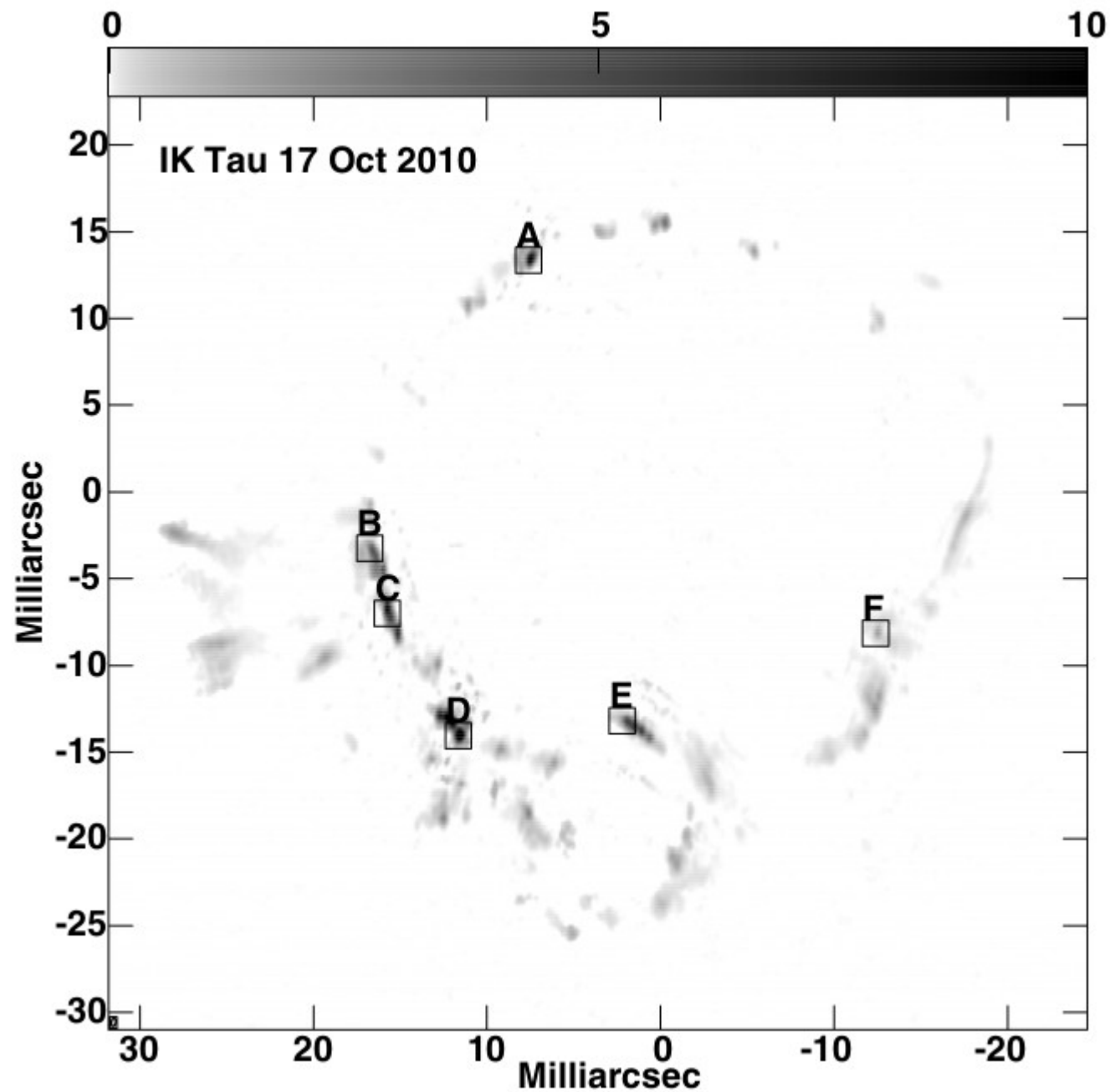
acceleration of the stellar wind (mainly due to radiation pressure on dust grains)

Polarimetric continuum observations:

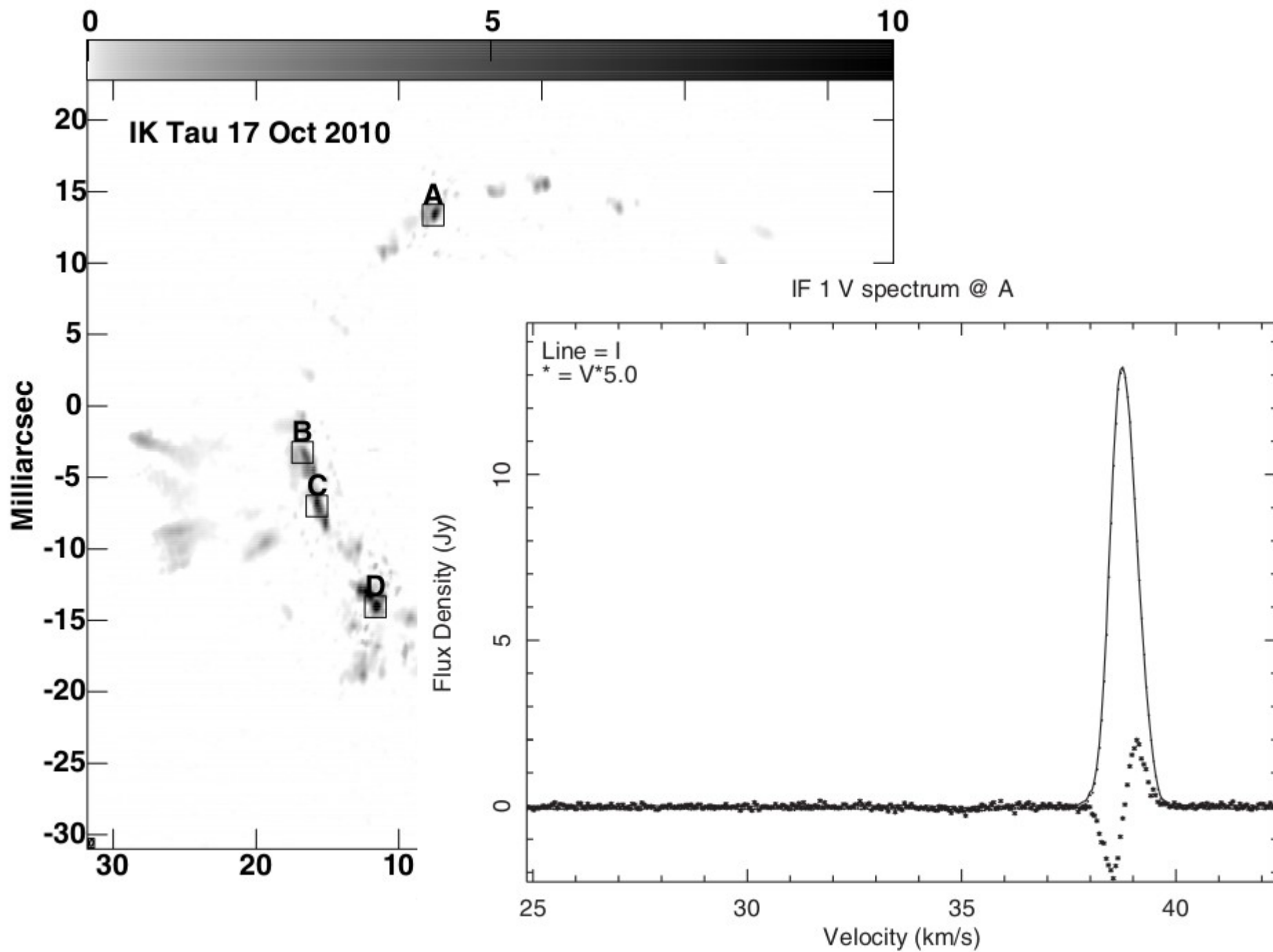
orientation of elongated dust grains around evolved stars due to the effect of a global magnetic field

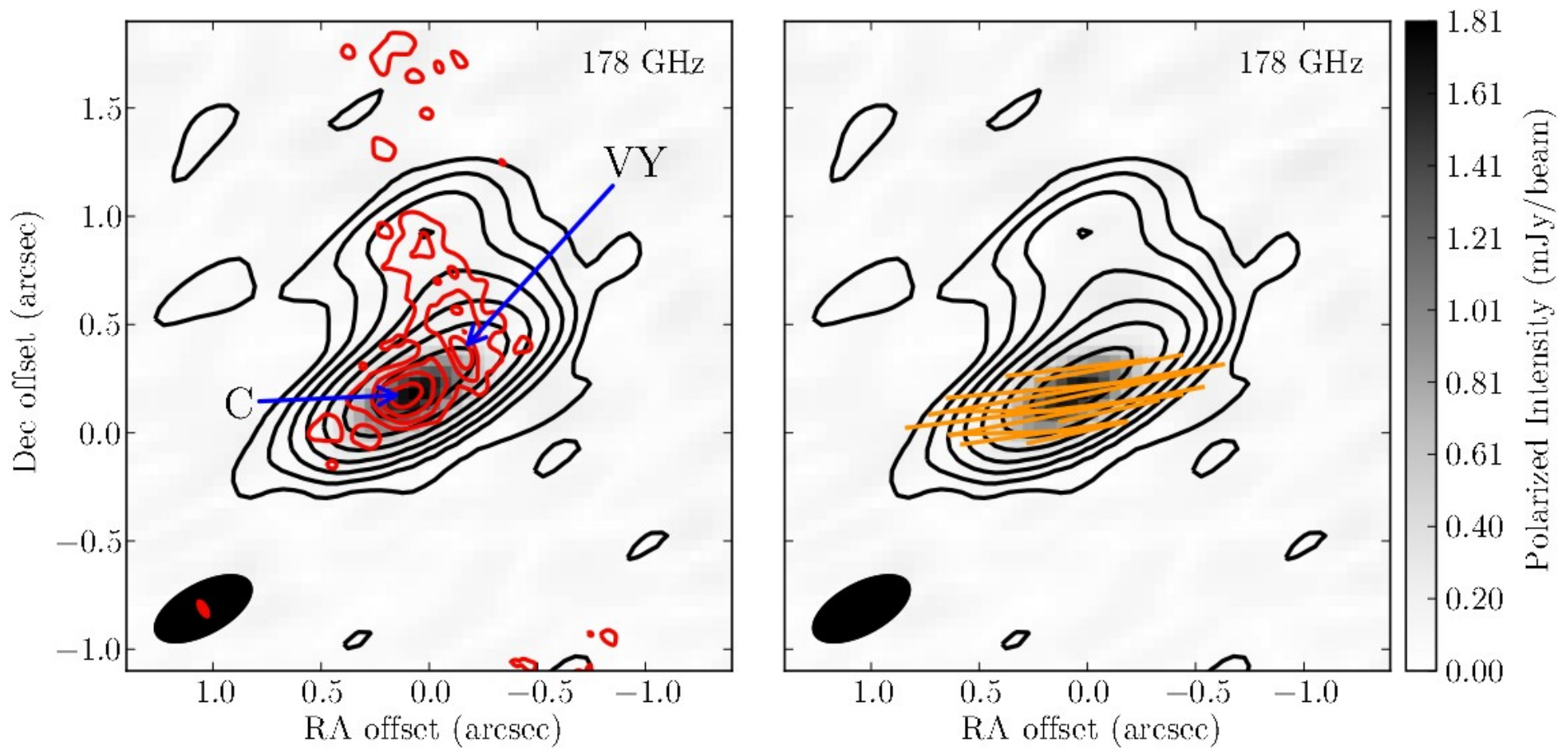
Observations of polarized maser emission:

strength and geometry of the magnetic field in the expanding envelopes of evolved stars



SiO $v=2$ $J=1-0$
VLBA obs.
Cotton et al. 2011





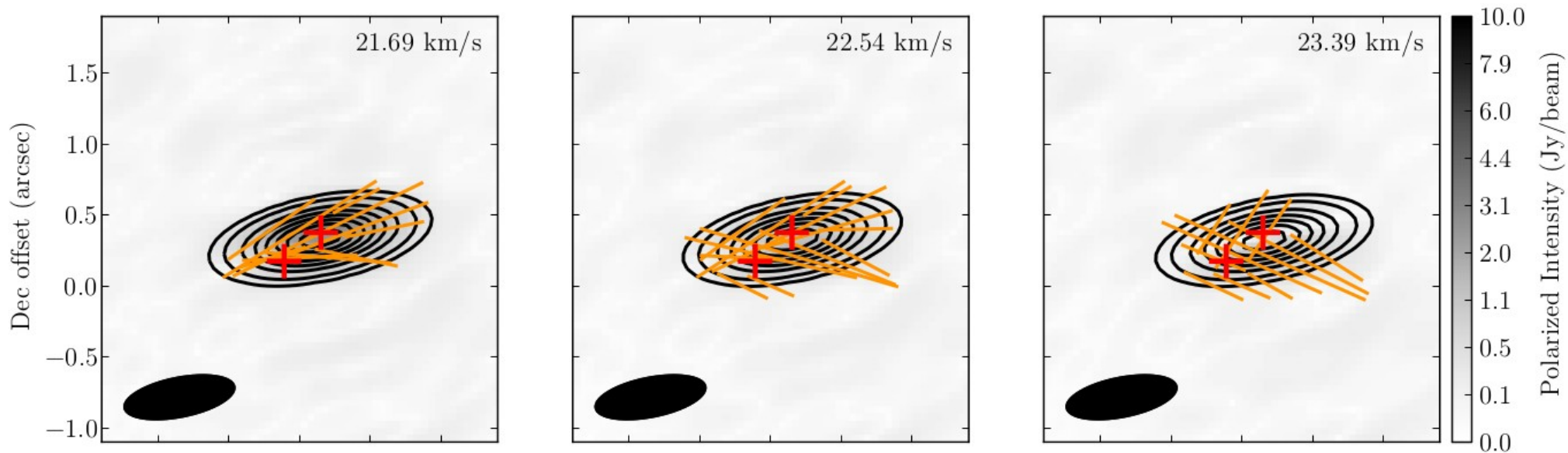
Dust emission at 178 GHz around of VY Cma (ALMA Band 5, Vlemmings et al. 2017)

Gray scale: linearly polarized intensity

Black contours: total intensity

Red contours: ALMA 658 GHz continuum

Orange vectors: the direction of polarization (rotated by 90 degrees to indicate the magnetic field direction)



Channel maps of the linear polarization of the SiO $v=1$, $J=4-3$ maser (ALMA Band 5, Vlemmings et al. 2017)

Gray scale: linearly polarized intensity

Black contours: total intensity

Orange vectors: the direction of polarization (rotated by 90 degrees to indicate the magnetic field direction)