

## Polarimeter to Unify the Corona and Heliosphere

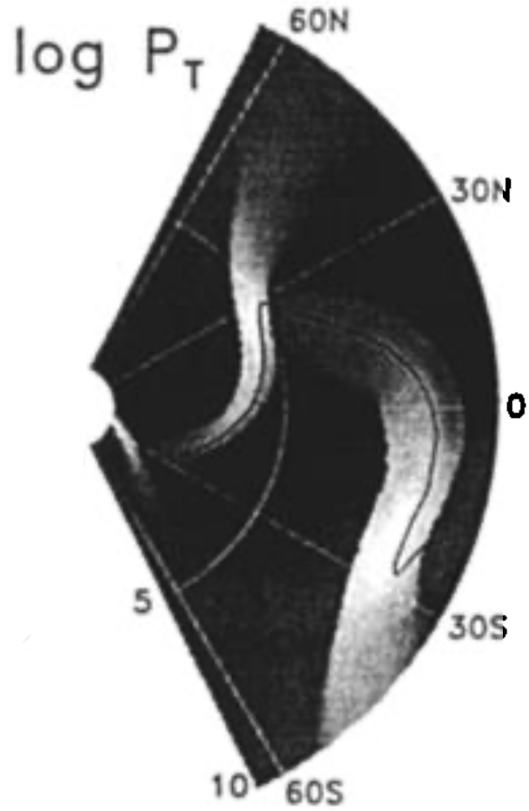


CIRs – a few thoughts on the unknown, for PUNCH-2

DeForest



# CIRs: a few thoughts on the unknown

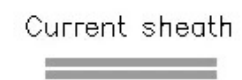
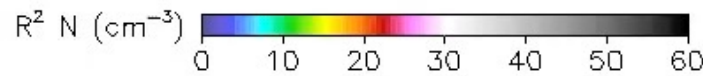
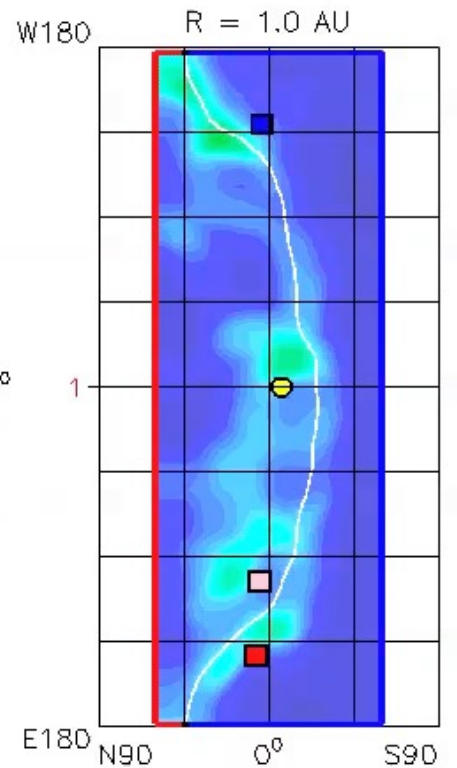
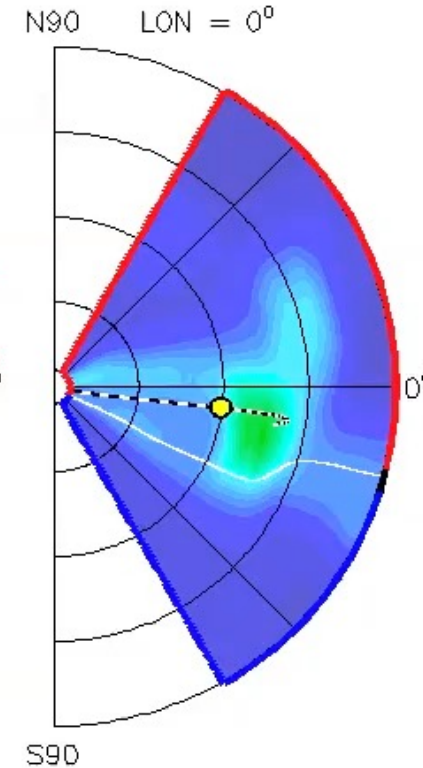
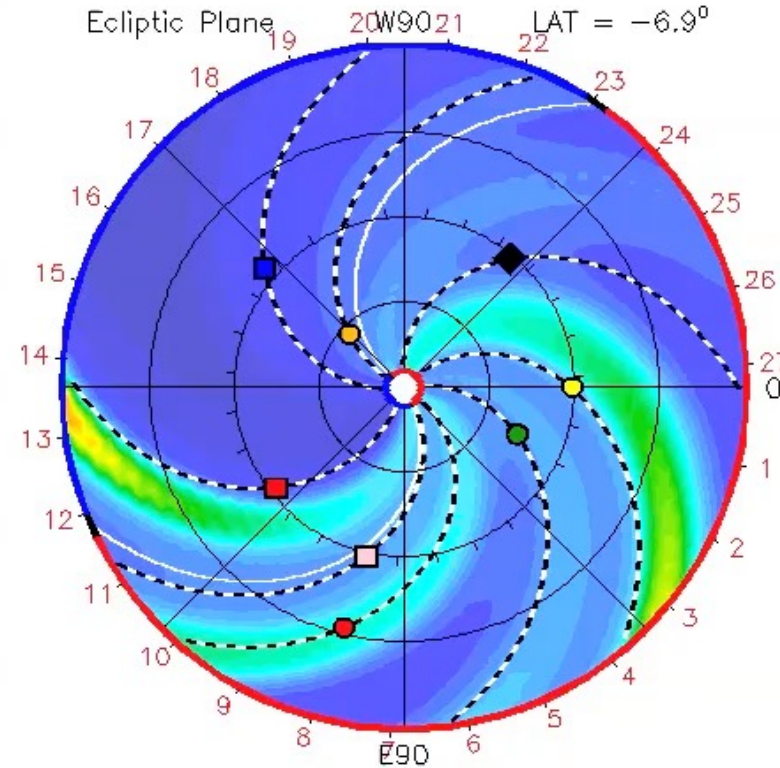


Pizzo & Gosling 1994

2017-02-17T00:00

2017-02-17T00 +0.00 day

● Earth   
 ● Mars   
 ● Mercury   
 ● Venus   
 ◆ OSIRIS-REx   
 Spitzer   
■ Stereo\_A   
■ Stereo\_B



ENUL-2.7 lowres-2187-d4b1 WSA\_V2.2 GONG-2187

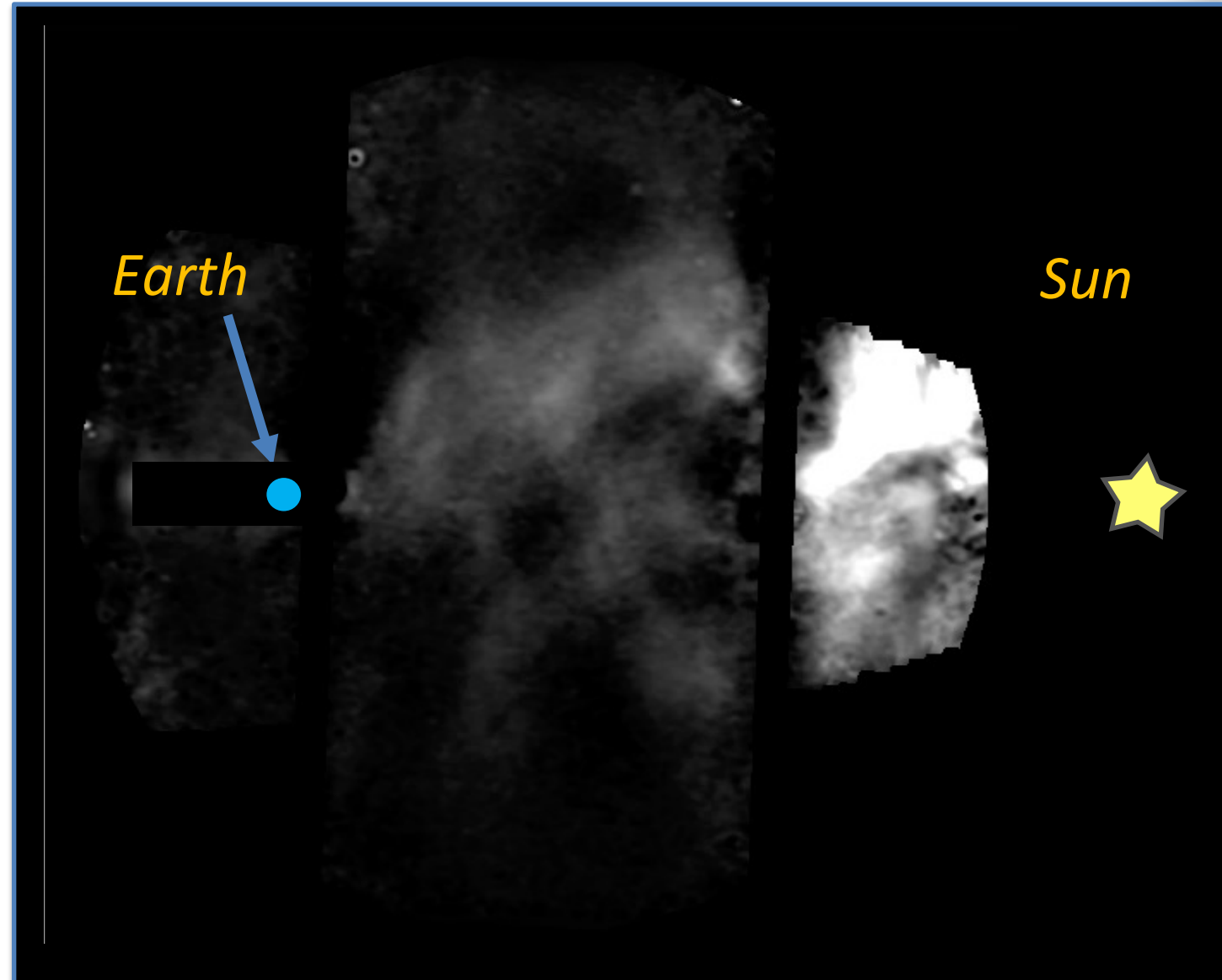
Odstrcil & Pizzo 2009





# CIRs: A STEREO movie

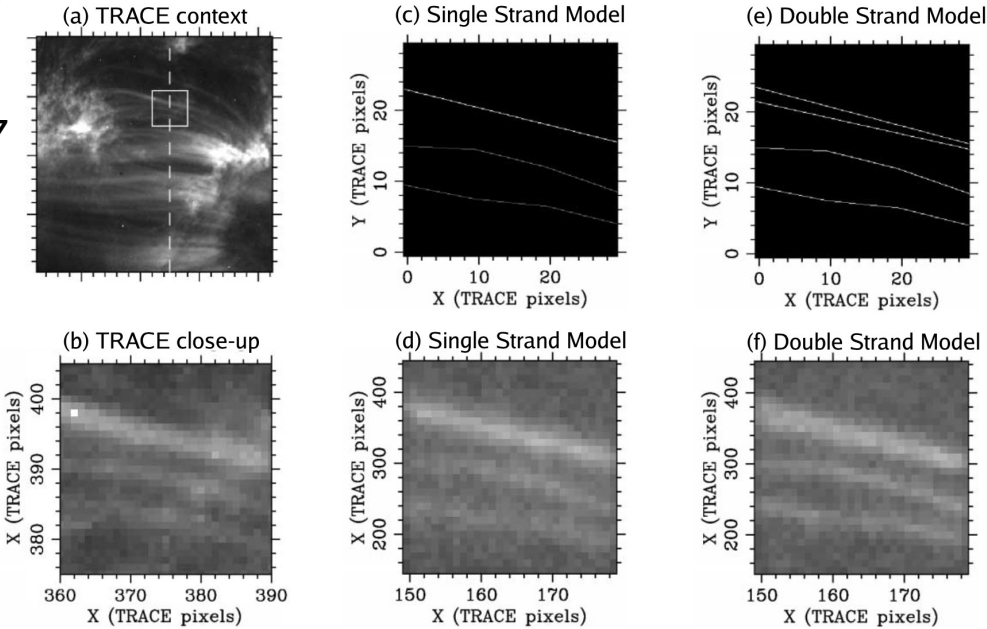
- Why is the front round like that?
- Why are there multiple arcs?
  - waves
  - shocks
  - crinkles
  - solar wind variability
  - ???
- Is this CIR a shock?
  - Where does the shock form?
  - How does it evolve?
  - how broad is it, and is it uniform?
- What are those very fine looplike structures?
- Is there “interior structure” slamming into the CIR?
- 



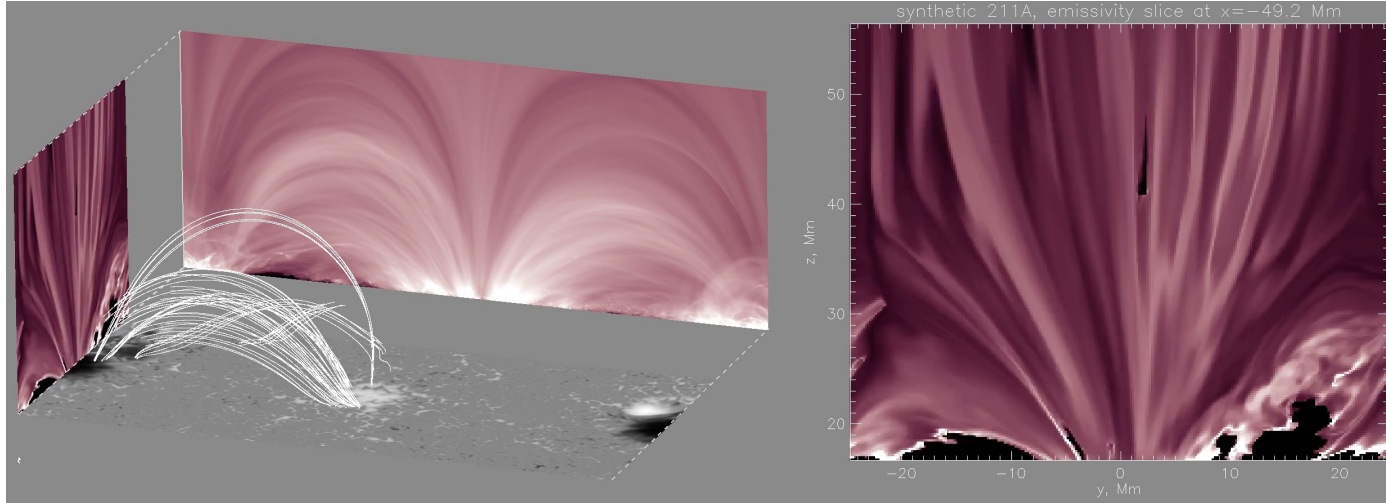


# The importance of forward modeling

DeForest 2007



Malanushenko et al. 2021



- Even simple forward models yield insight into the unknown
- Modeling instrument response helps understand not only what the instrument *does* tell you, but also what it *doesn't*.
- Nature is surprising and I'm sure we'll be surprised by CIRs.
- Producing simple "mock-up" level models *now* will help disentangle results later.