

Meridional flux transport on the Sun

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(with Sasha Kosovichev³ and Junwei Zhao³)

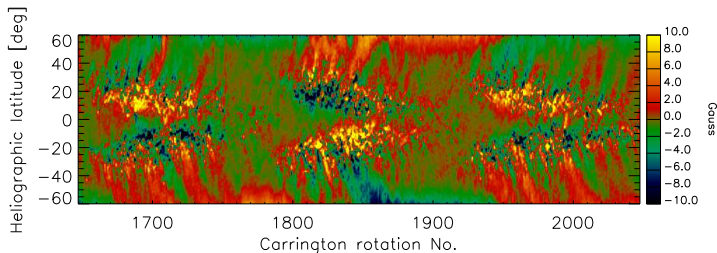
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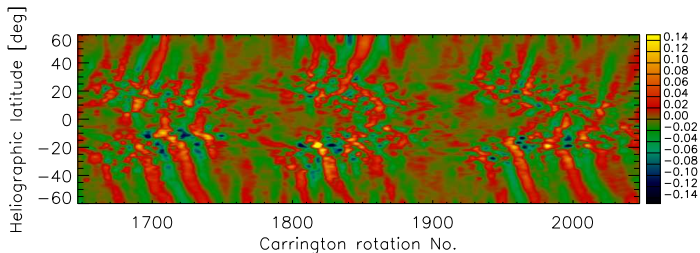
3 – HEPL, Stanford University, Palo Alto

- Flux transport essential for dynamo models
- Wang & Sheeley's works
 - Stream of magnetic flux spread poleward from the sunspot belts, deflected eastward by differential rotation.
 - Two components: supergranular diffusion and meridional transport
 - Without MT – no polar fields

Flux transport in latitude and time



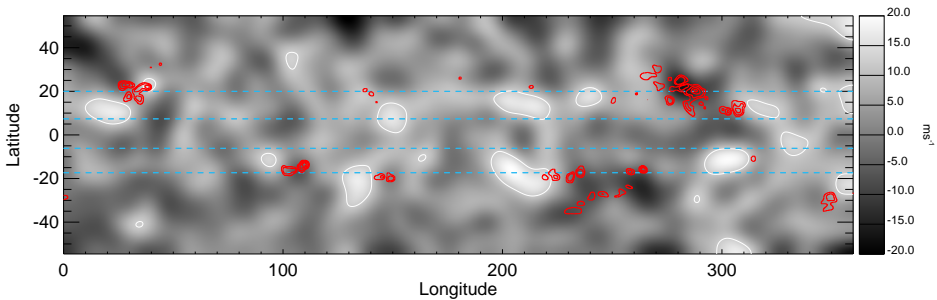
Frequency filter 1.06×10^{-8} – $3.17 \times 10^{-7} \text{ s}^{-1}$ (periods 36.5–1093 days)



Some questions:

- Is this important for the sub-surface layer dynamics?
- Could this contribute to the formation of torsional oscillations?
- How the torsional oscillations look like? Can we see them in flow maps?
- We are working on it! Sometimes, somehow, . . .

Torsional oscillations, where are you?



Kulatý box

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Druhý Kulatý box

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Kulatý box

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Druhý Kulatý box

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