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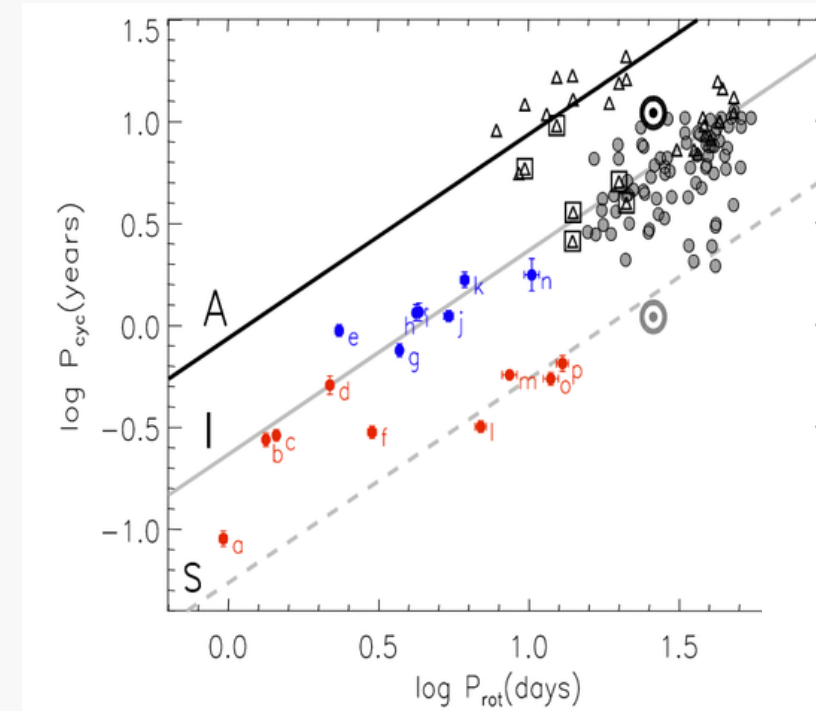
CUNY MS project pitch

Using Kepler and TESS to study rotation and stellar activity in the open cluster NGC 6819

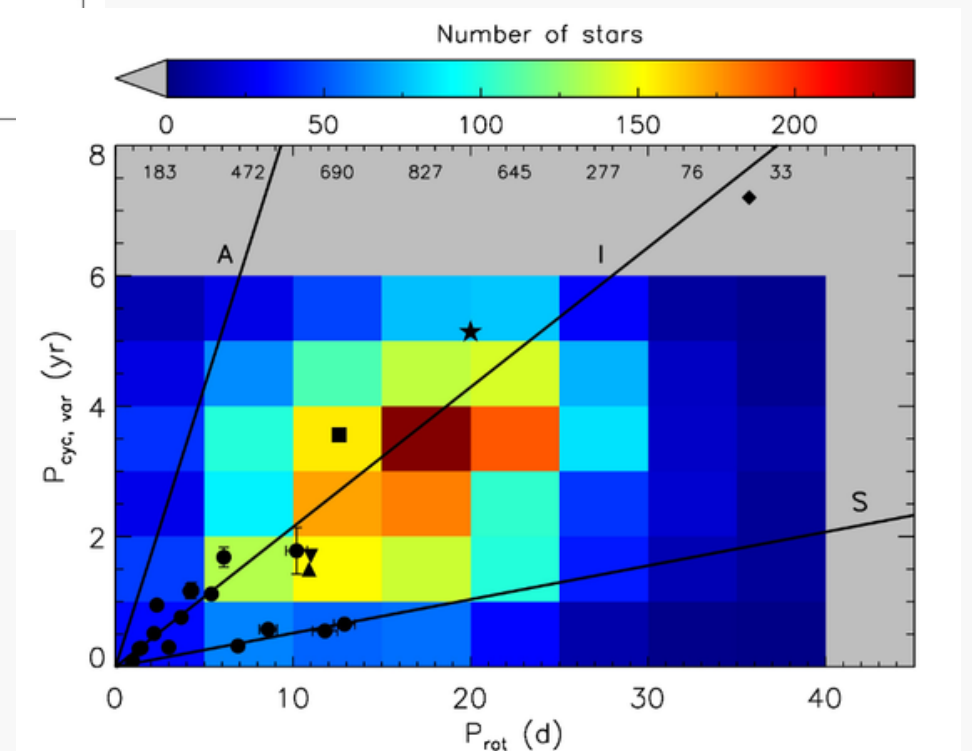
Isabel Colman (AMNH)

# Why study stellar rotation & activity?

- Empirical approaches to understanding the role of magnetism in stellar evolution
- Activity is linked to rotation



Ferreira Lopes+ 15



Reinhold+ 17

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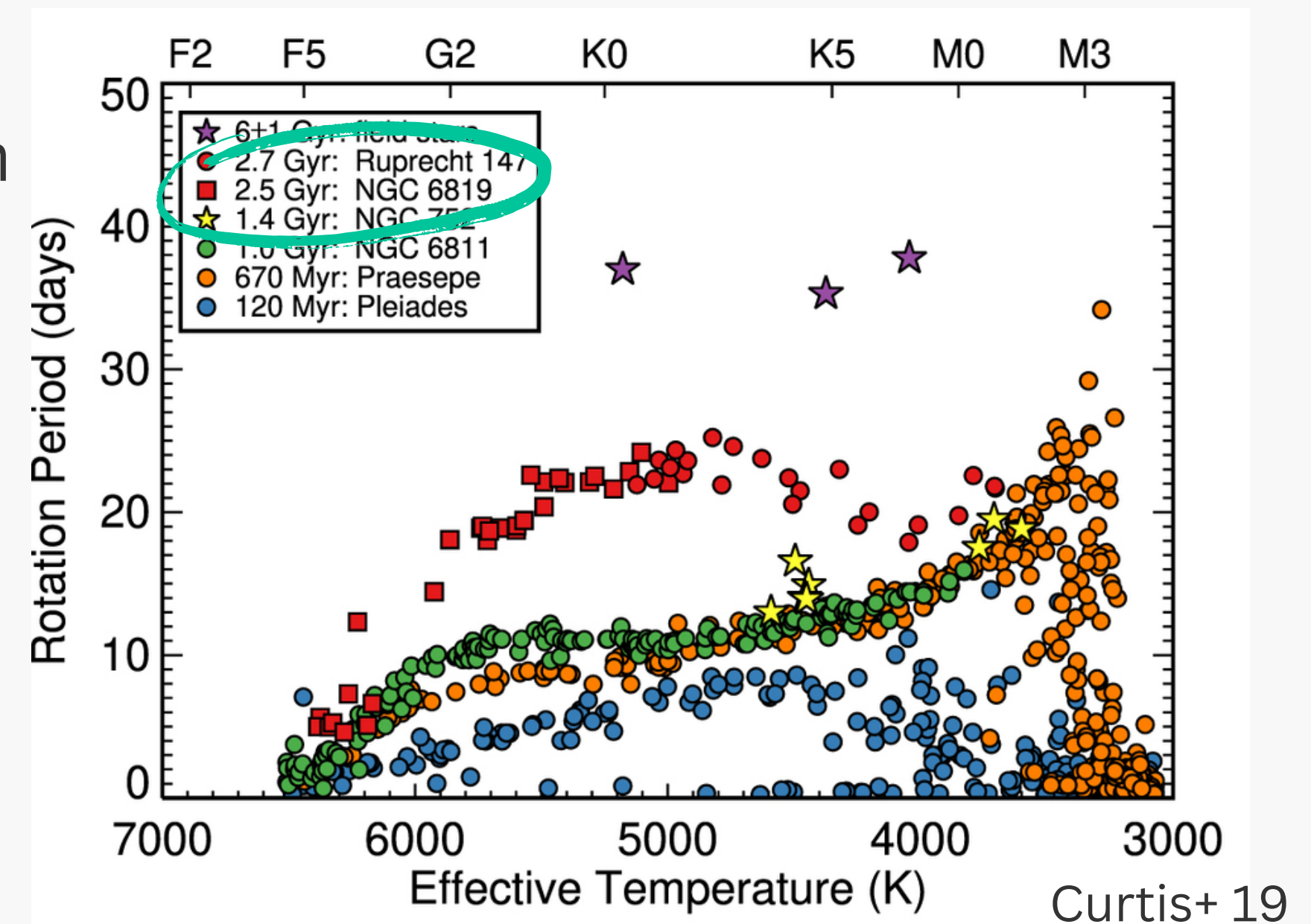
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# Why study stellar rotation & activity?

- Empirical approaches to understanding the role of magnetism in stellar evolution
- Activity is linked to rotation
- Rotation is linked to age
- **Goal:** get a “snapshot” of stellar activity at one age



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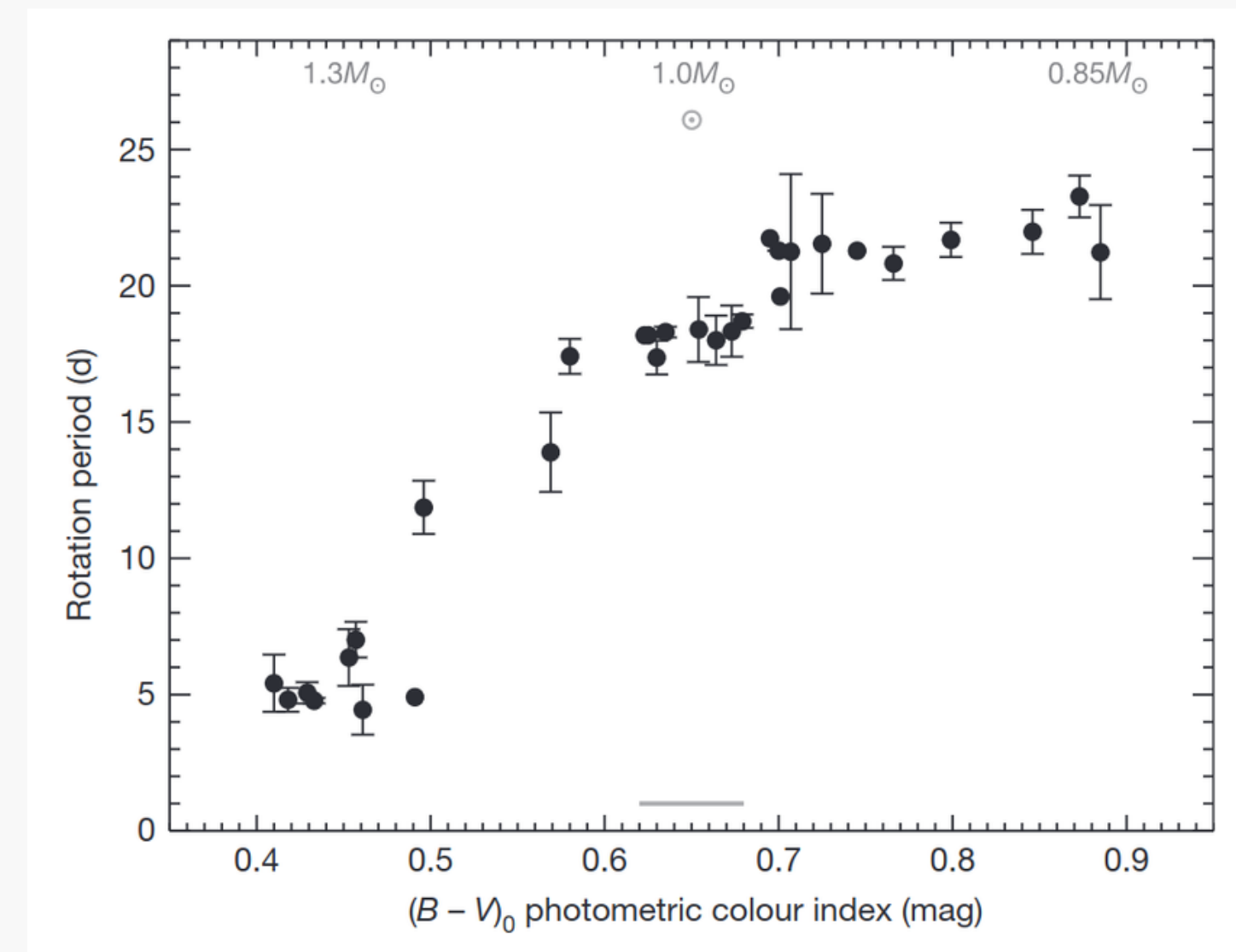
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# Studying NGC 6819 with Kepler

- Four years of continuous observations with Kepler
- Detecting rotation periods and activity cycles



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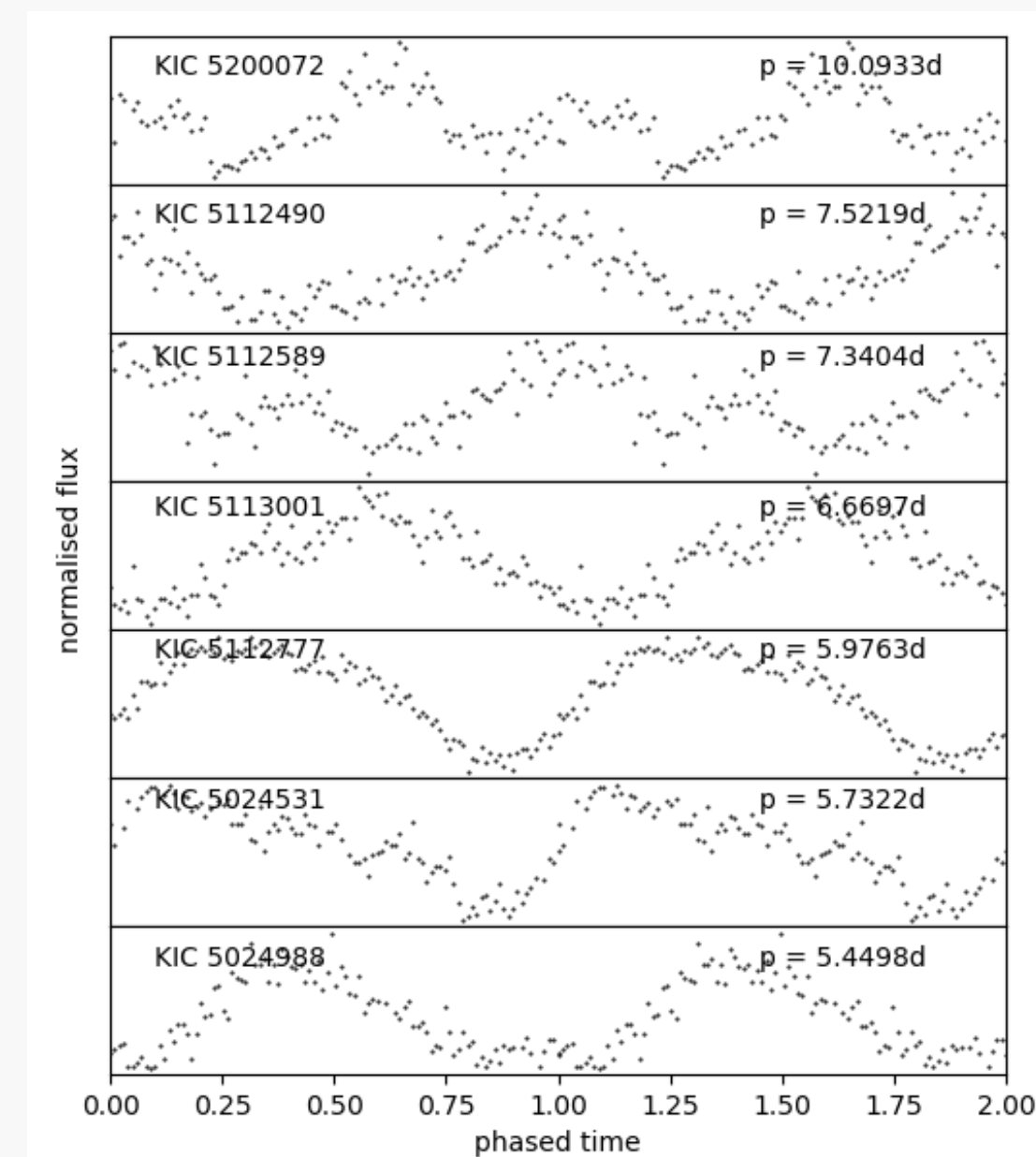
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# Studying NGC 6819 with Kepler

- Four years of continuous observations with Kepler
- Detecting rotation periods and activity cycles
- Now we have even more data! (Colman+ 21)
- **Goal:** create a legacy dataset, monitor changes over four years, and making predictions



Colman 20

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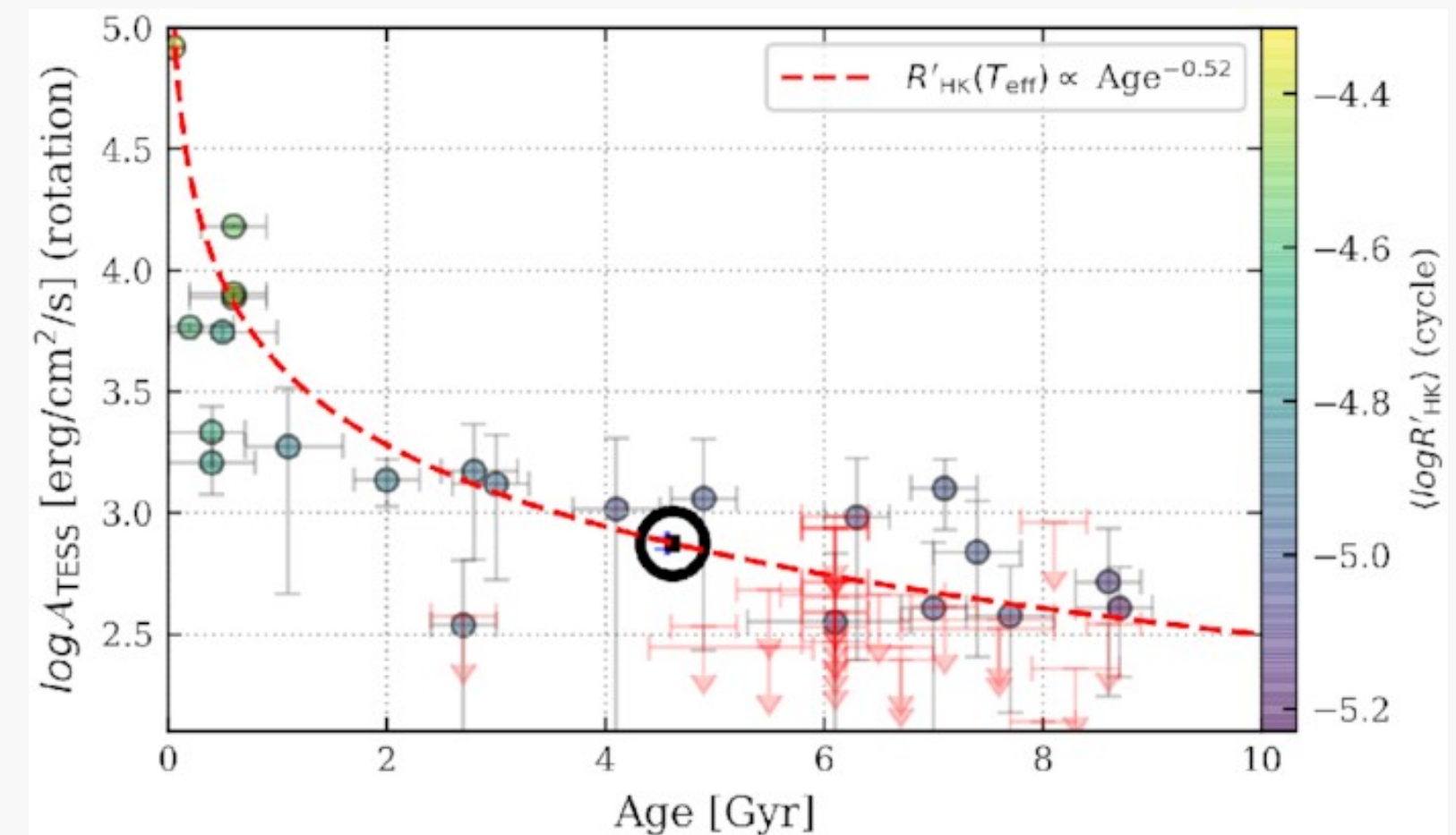
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# Follow-up with TESS

- **Goal:** Replicate measurements from legacy dataset and test predictions
- New data for NGC 6189 will be released over the course of the project
- Whole-sky survey, possibility to extend methods to other Kepler clusters and even field stars



Ponte+ 23