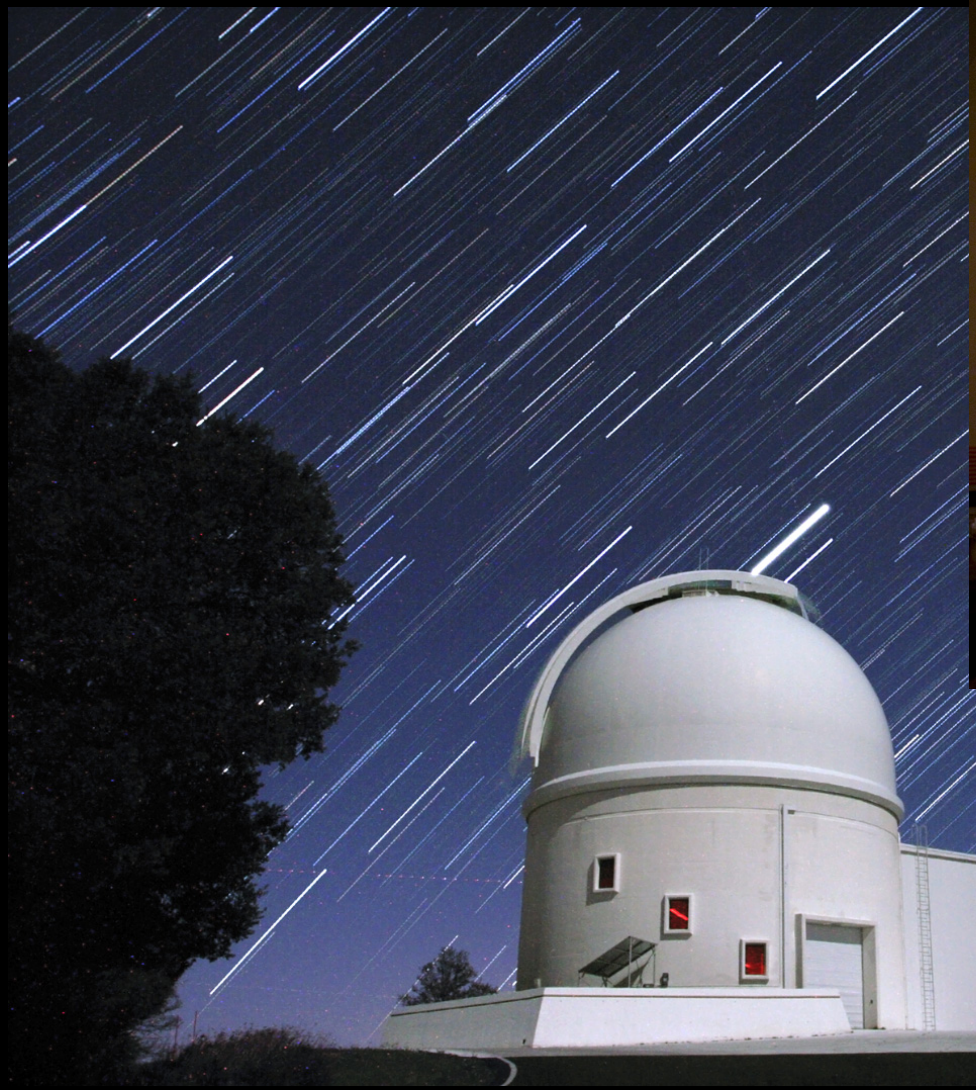
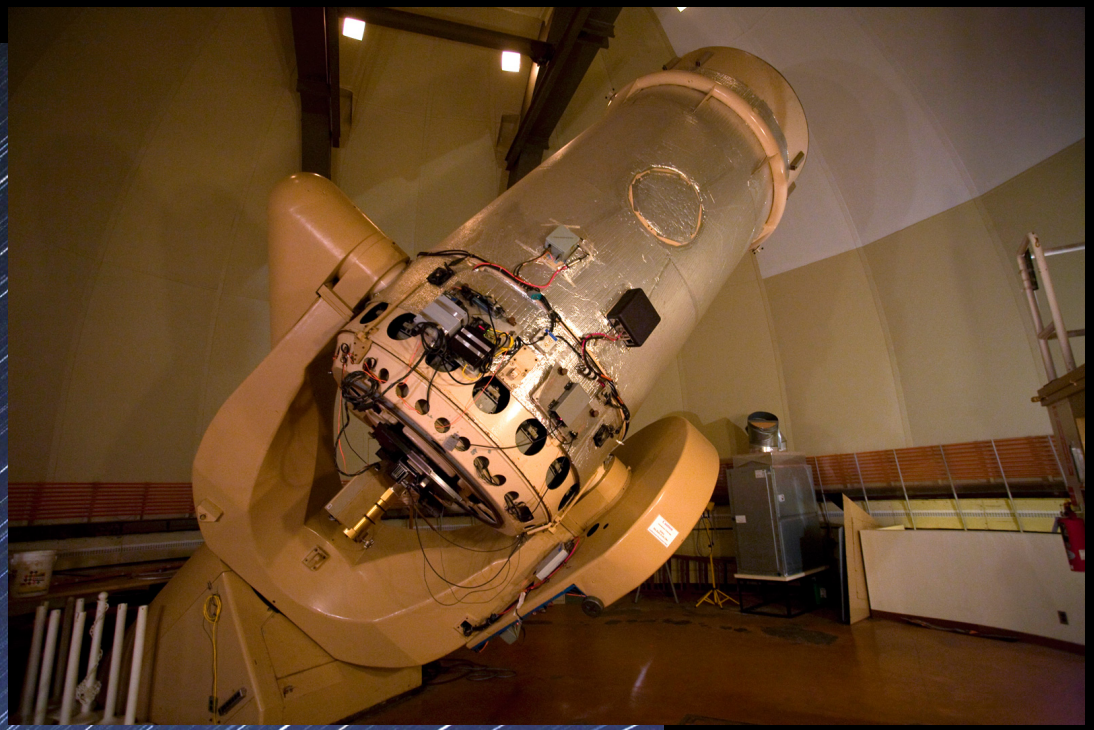
Logistics

- Class website: https://github.com/VR-DSA/ay20_2019
    - Will post lecture notes after lectures, and readings at the end of each week.
- Grading: 6 problem sets (30%), midterm (30%), project (20%), final (30%)
    - Problem sets due in person at a lecture ~1.5 weeks after assignment.
- Class trip to Palomar Observatory: Saturday Nov 16.

We get a viewing night on the Palomar 60-inch!



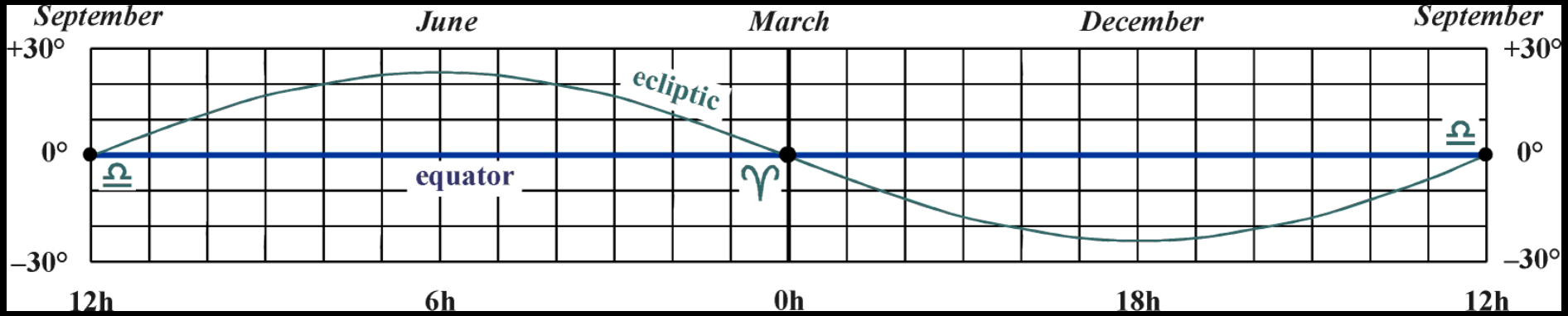


Coordinates, celestial motion, and time

Ay 20, Fall 2019, Lecture 1

Vikram Ravi

D. Cody/Caltech/OVRO


September
June
March
December
September
+30°
0°
–30°
ecliptic
equator
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☊
+30°
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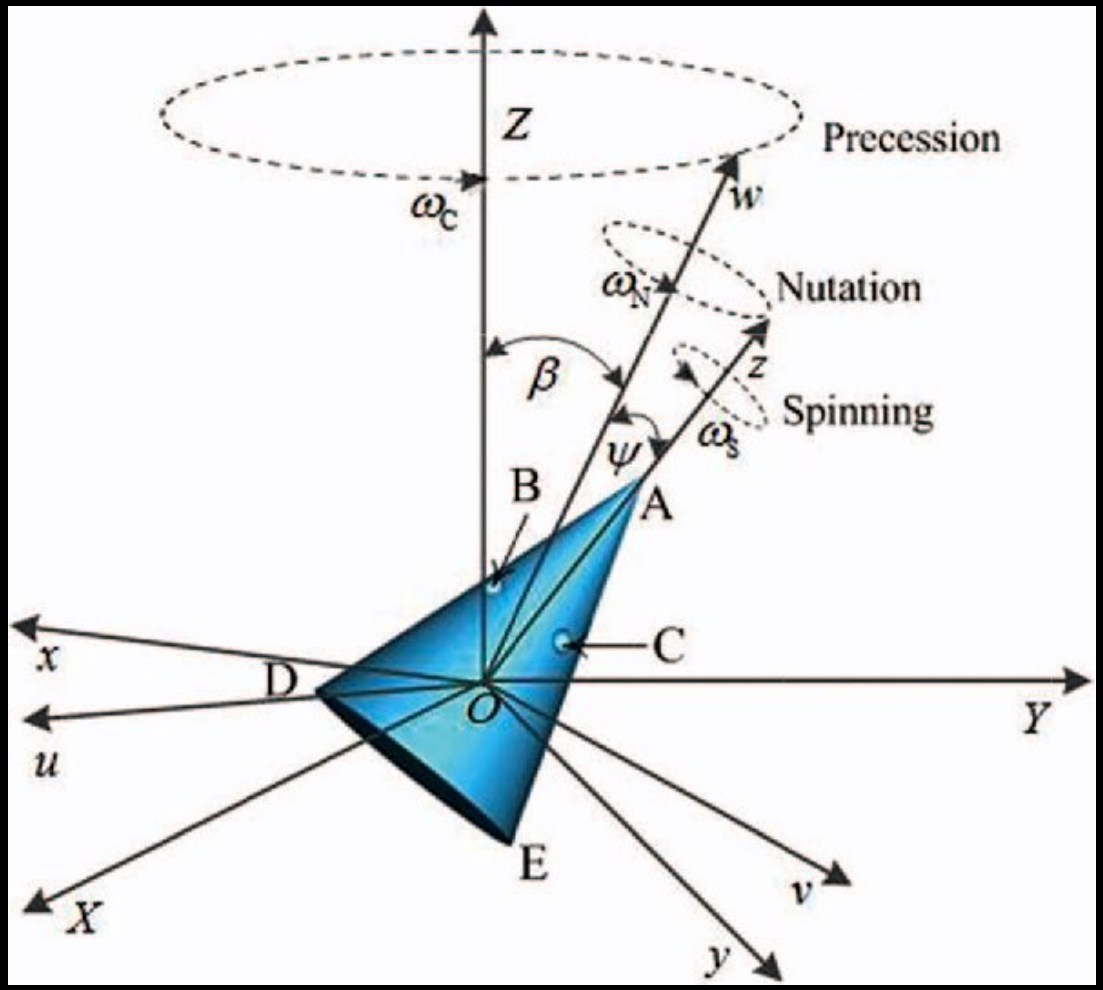
–30°
12h
6h
0h
18h
12h


Z
Precession
w
ω_C
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Nutation
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Spinning
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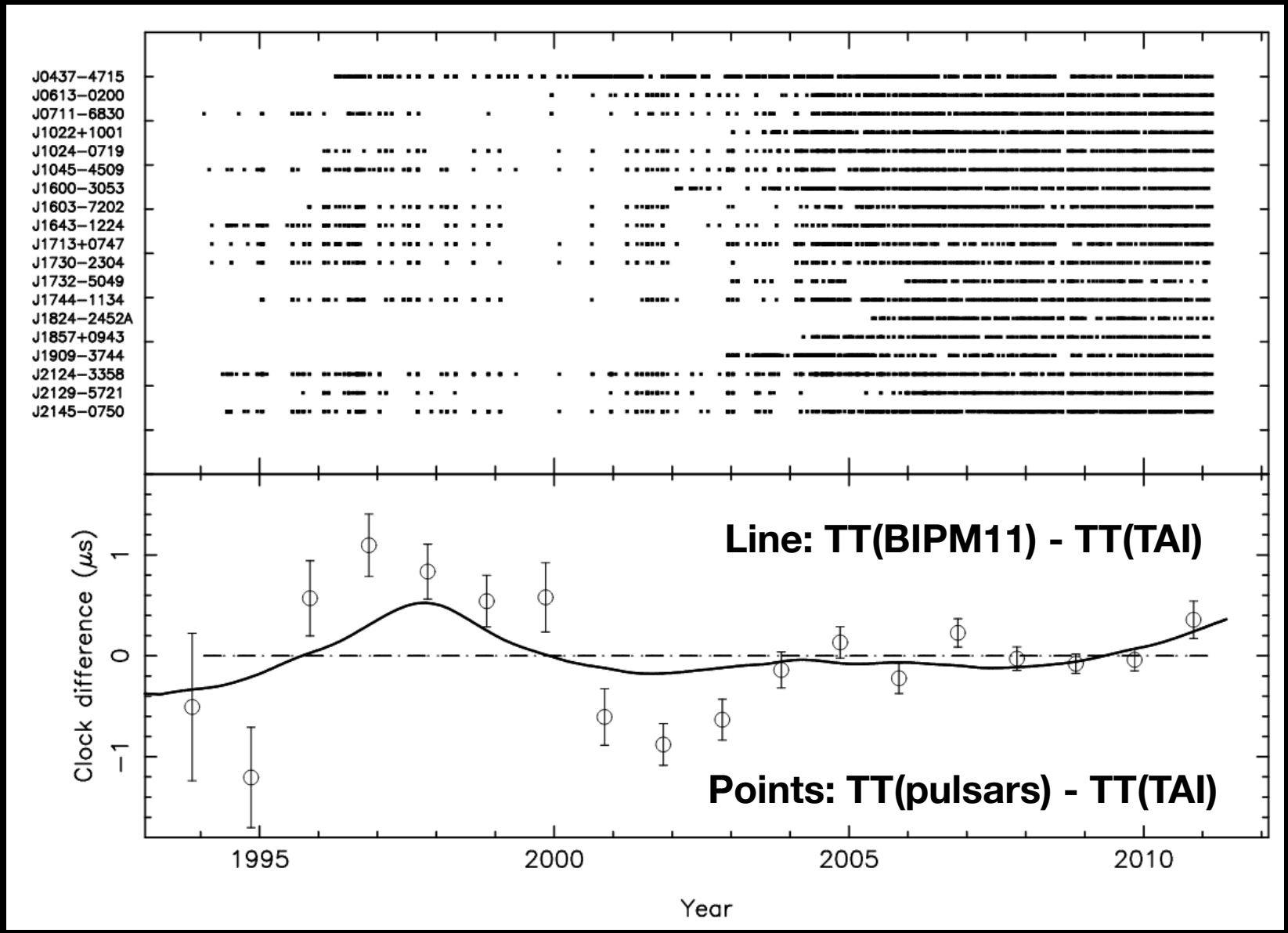
Hong+16

The timing of an ensemble of radio pulsars over several years enables the realization of a timescale independent of instruments on Earth.



Hobbs+12

For Friday: read Chapters 1 and 2 of Carroll & Ostlie.

A. Imagine you're suddenly transported to a deserted island. There's plenty of food or water, but no electronics of any kind besides your trusty digital watch that's still set to your own timezone. Being clever, you know how to build a boat, and having a photographic memory, you only need to know your latitude and longitude to figure out where you are on a map. How would you do this?

B. Now imagine that your watch runs out of charge before you figure out how to use it properly. What would you do next?