

Linear Fit to Phase Drift

- Use a linear fit to determine slope of phase drift
 - Average phase increase of $12.2^\circ/\text{day}$
- This is really the beat frequency between the System III rotation period and another, slightly longer period
- The average S ion subcorotation period is 10.06 hours
 - 1.4% longer than the System III period of 9.925 hours.
 - 1.2 km/s drift relative to corotation at $6 R_J$
 - This is not the canonical 2.9% longer System IV period of 10.21 hours!
- Periodogram analysis of the data reveals a peak at 10.06 hours and a smaller secondary peak at 9.925 hours
- Allowing the period of the sinusoidal fits to the mixing ratios to vary also yields an average period of 10.06 hours