Spectral analysis of ridge bathymetry and some speculation

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Section KR1
Section KR1: time series analysis shows Milankovitch Peaks
Section KR2
Section KR2: time series analysis shows some Milankovitch Peaks
Juan de Fuca ridge: Bathymetry along a single carefully selected track
Juan de Fuca ridge:
Filtered bathymetry variability appears similar to ice volume
Juan de Fuca ridge: Late Pleistocene spectral variability mirrors ice volume
Juan de Fuca ridge: Early Pleistocene shows significant precession variability.
Conclusions and further work

- Both Antarctic and Juan de Fuca Ridge bathymetry show strong evidence of variation at 100 ky ice age, 41 ky obliquity, and 23 ky precession period variability.

- Spectral results are, however, sensitive to details including data resolution, heterogeneities in data, and the presence, faults, sea mounts, and sediments.

- Further work plans are for a more localized wavelet approach, integration of magnetic reversal constrains, and correcting for the presence of faults both in terms of amplitude and time.

- Interestingly, Early Pleistocene variability shows variability near precession periods, possibly because of a nonlinear ridge response or regional ice-sheet and sealevel variations.