

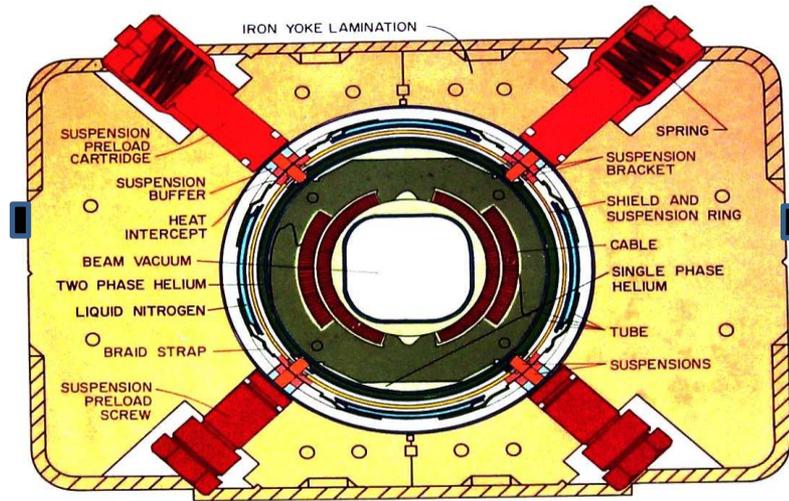
# Tevatron Magnet Rolls

## J Volk and a cast of thousands

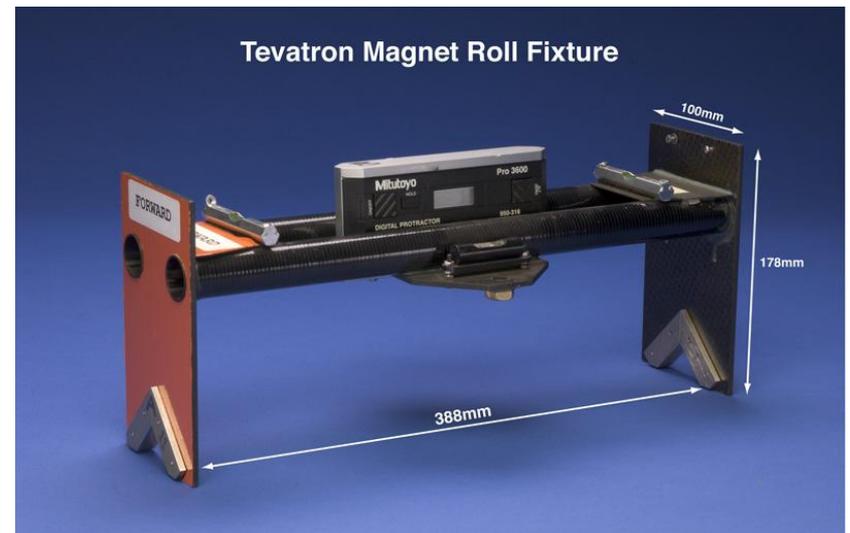
Rolls for the Tevatron quads and dipoles have been measured since 2003. Next is a graphical display of the rolls as a function of position around the ring. The length of the vector is proportional to the roll. Positive rolls point inward negative rolls point out.

Thanks to Peter Cooper of Computing Division for showing me how to do this.

# Tev Dipole and Roll fixture



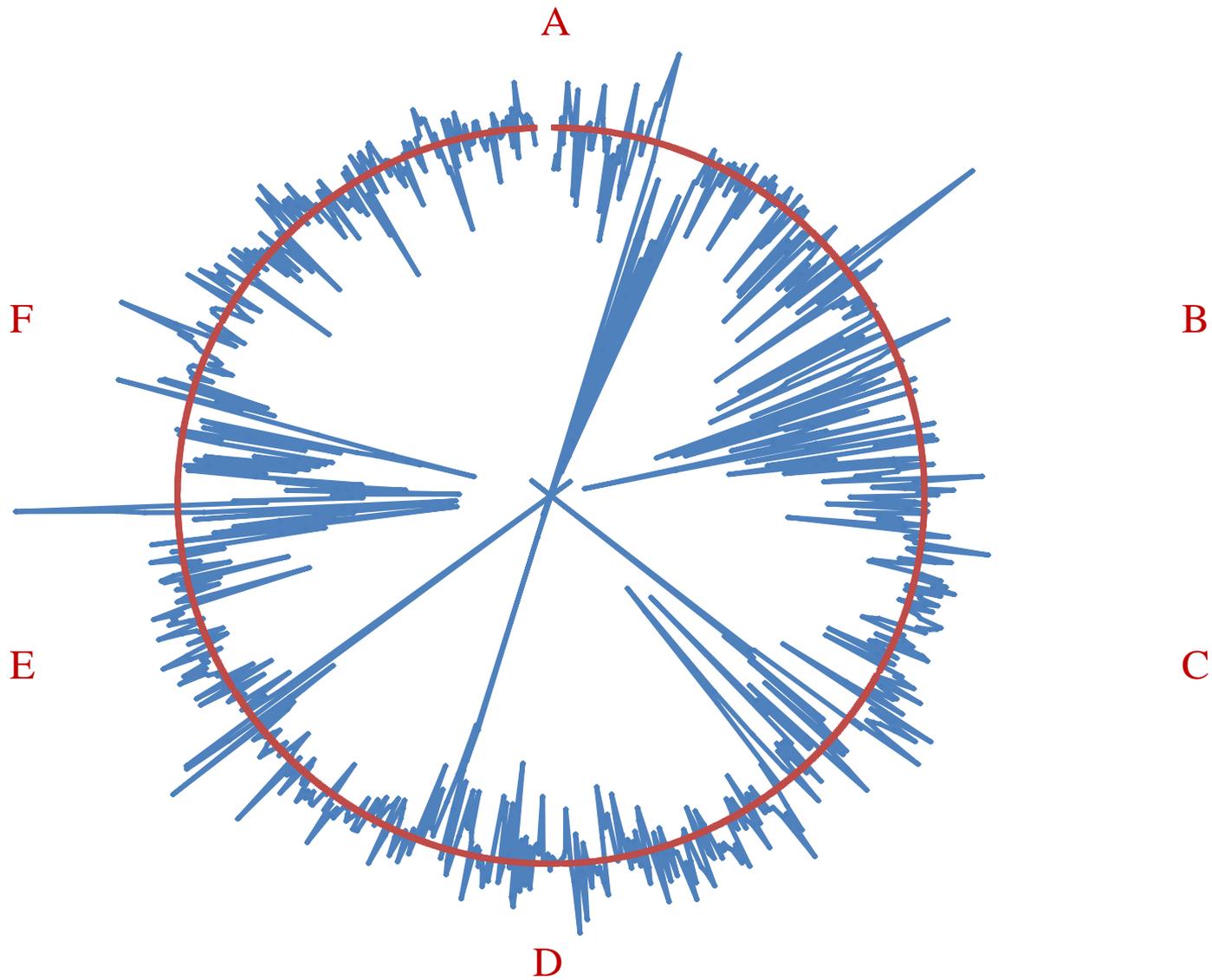
Survey lug



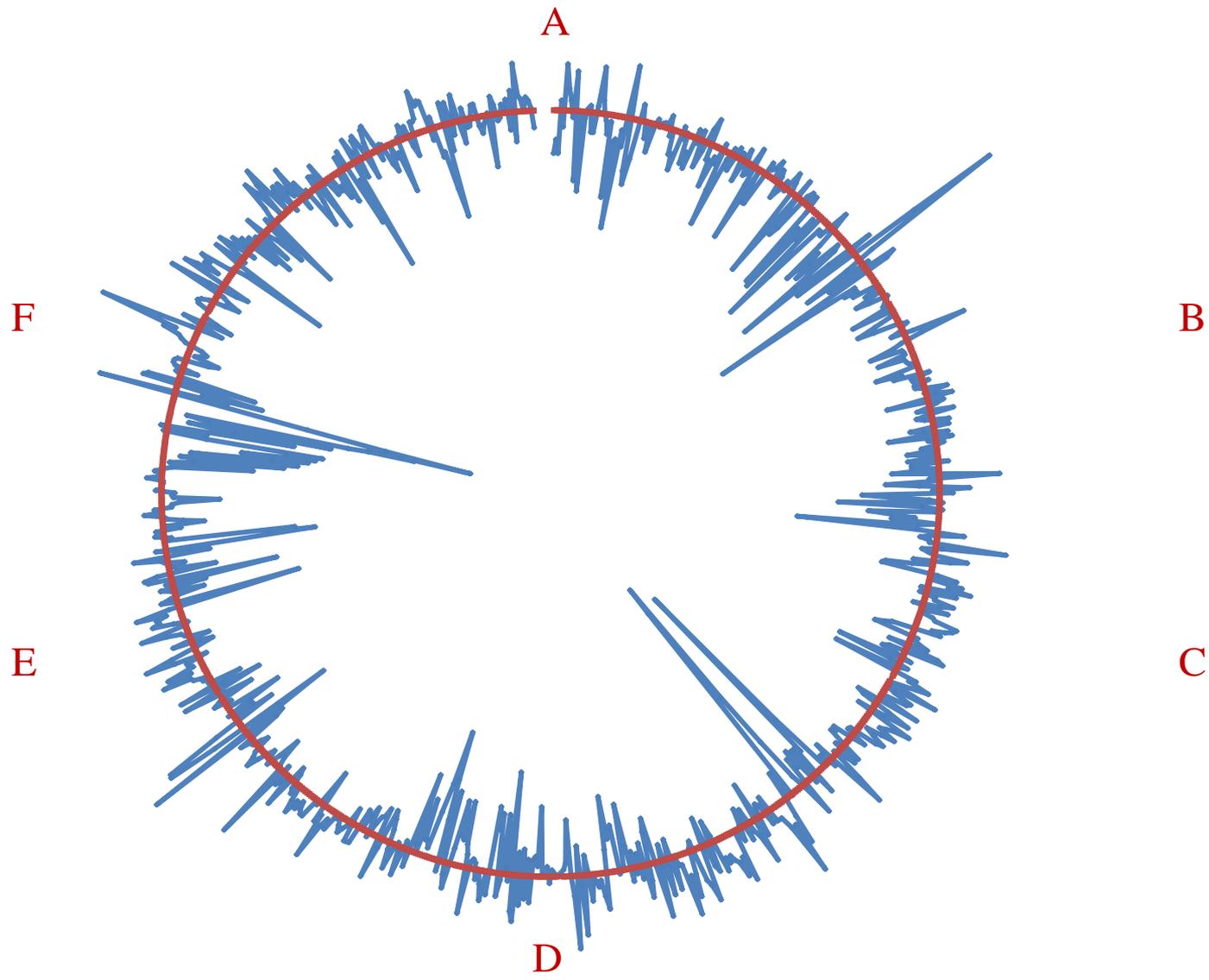
# Digital level on Tevatron Dipole



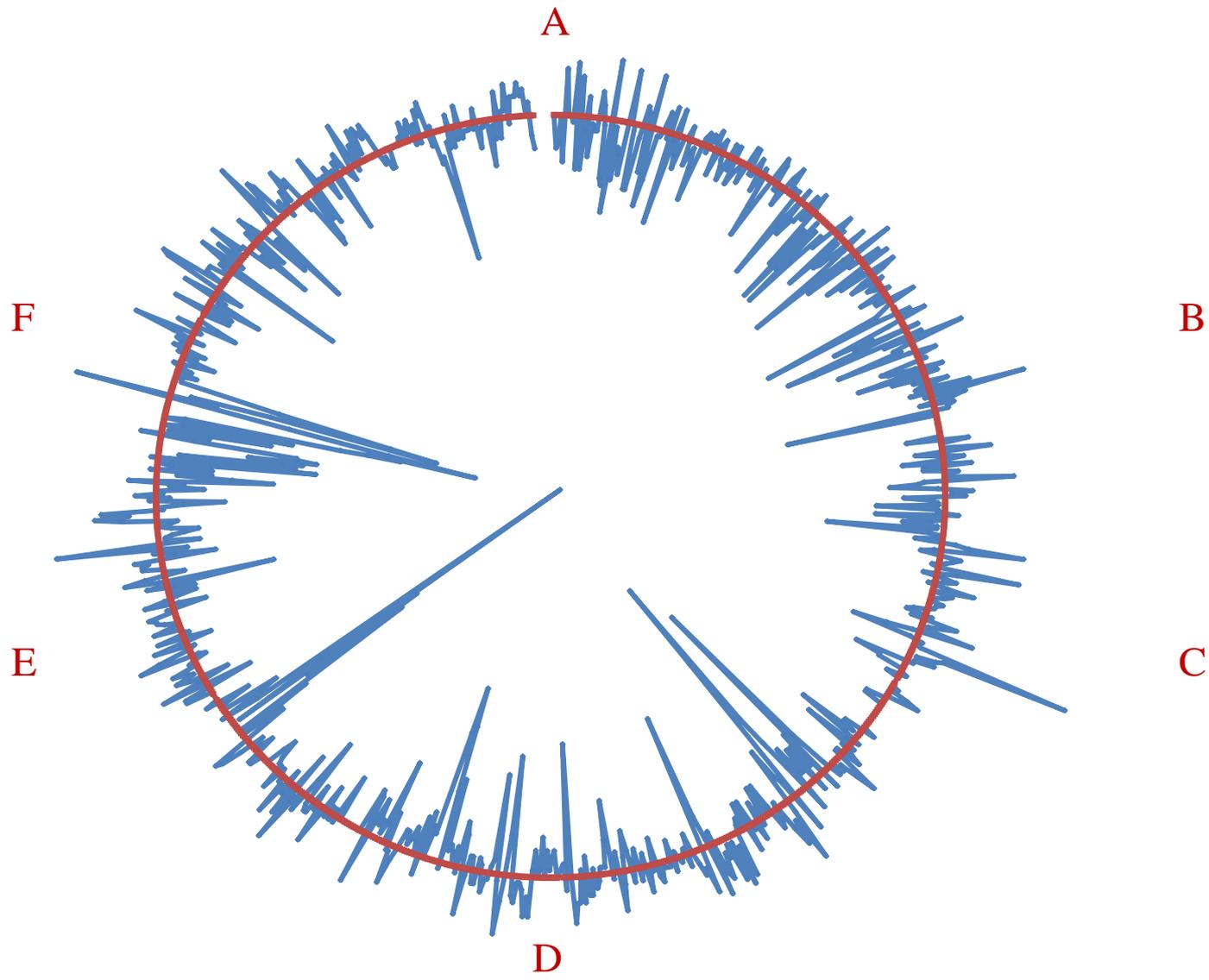
October 03



December 03



March 04



April 04

A

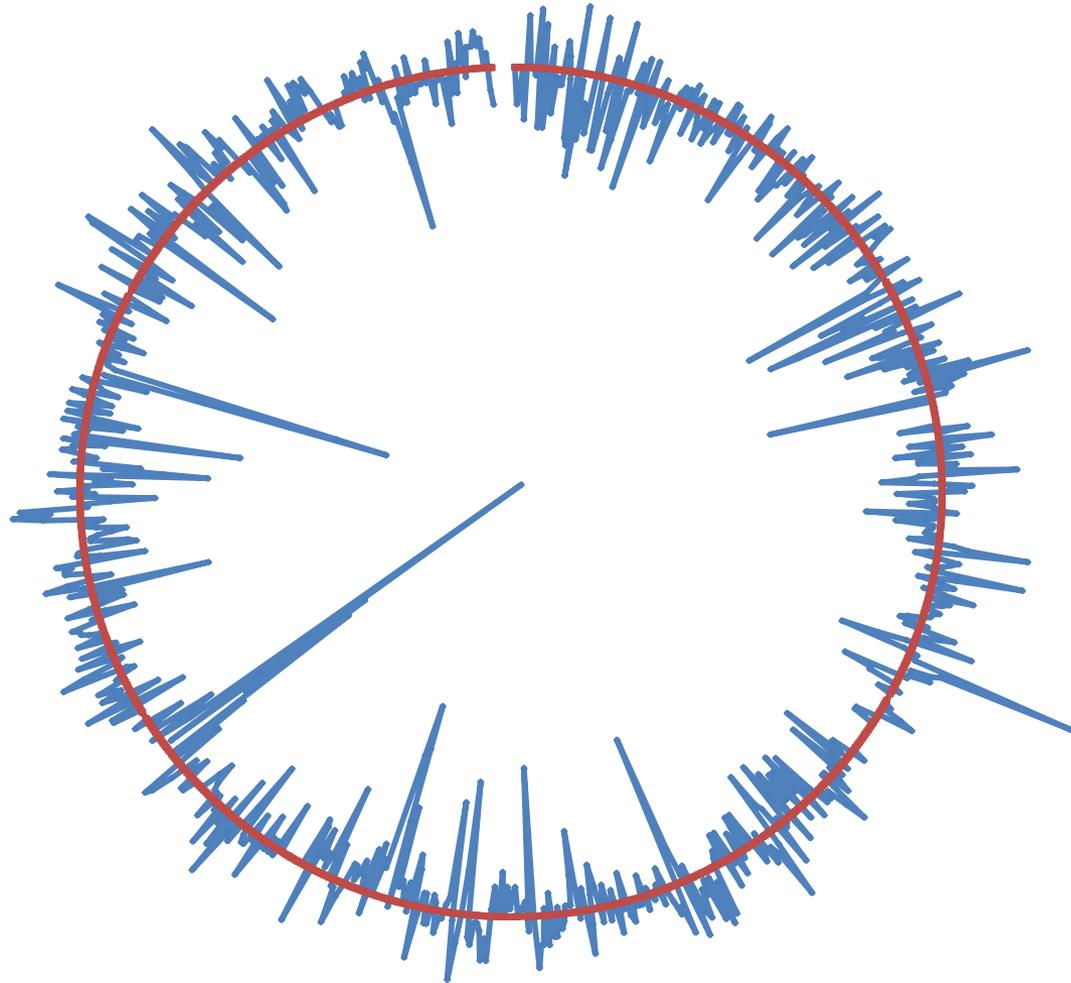
B

C

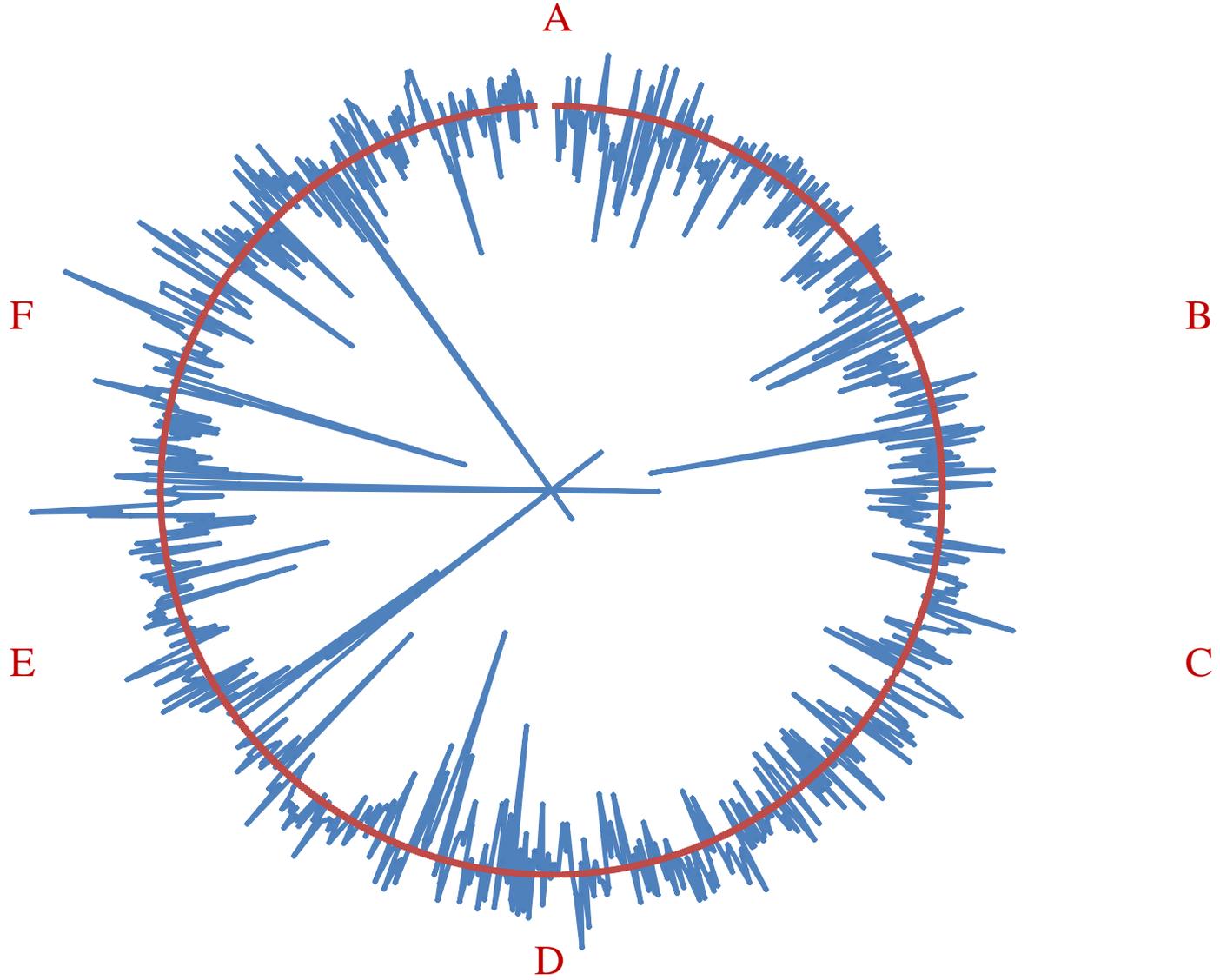
D

F

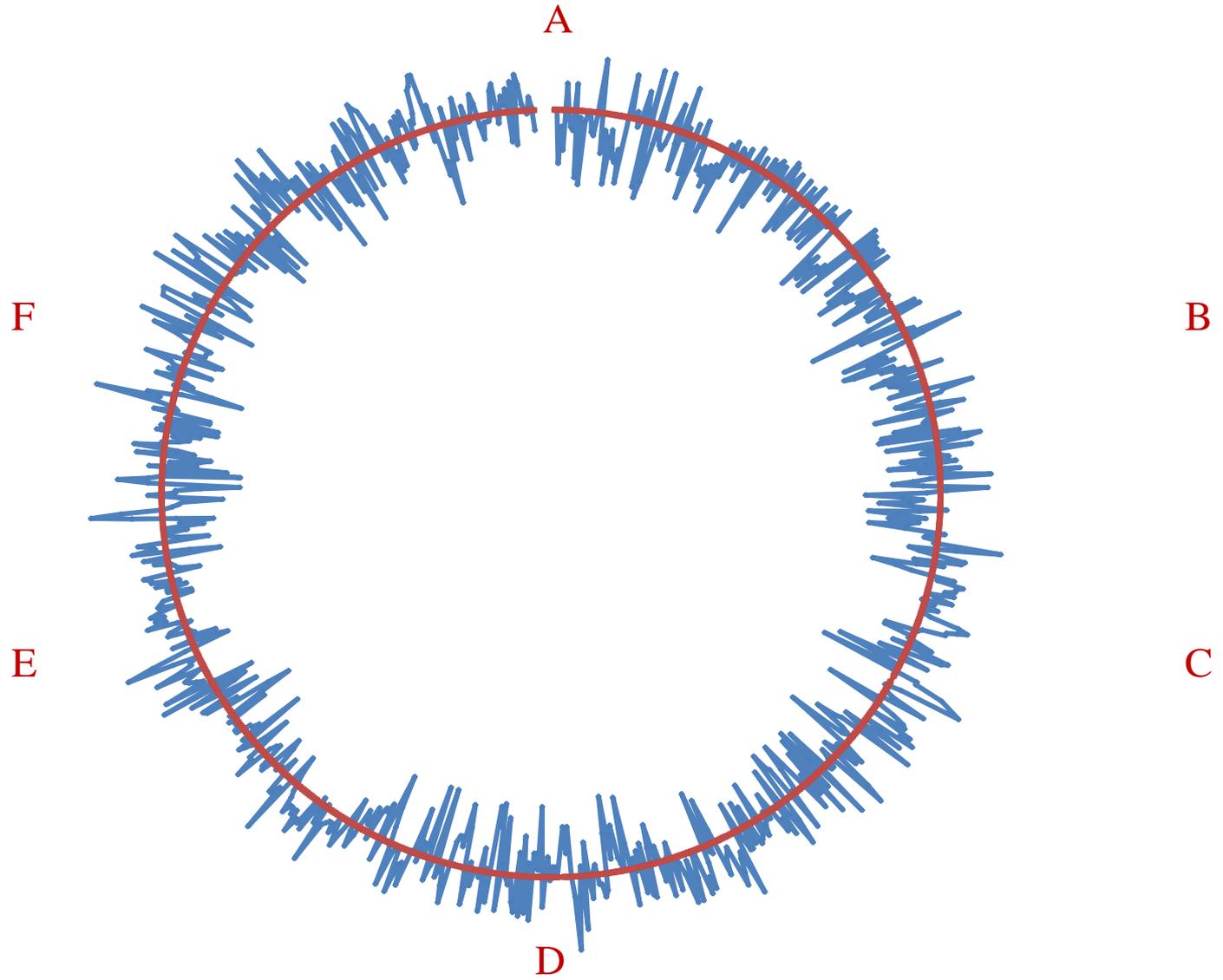
E



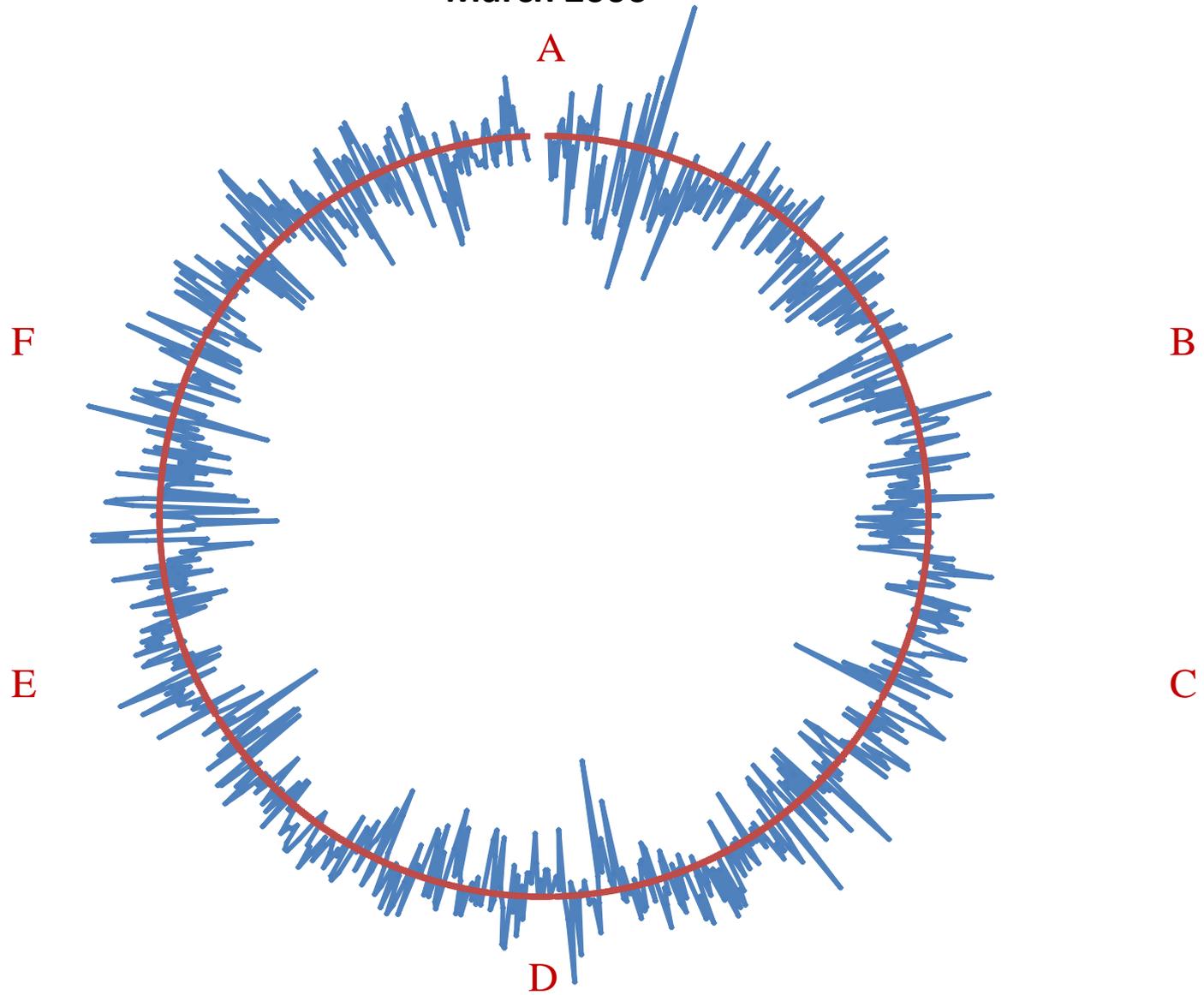
August 04



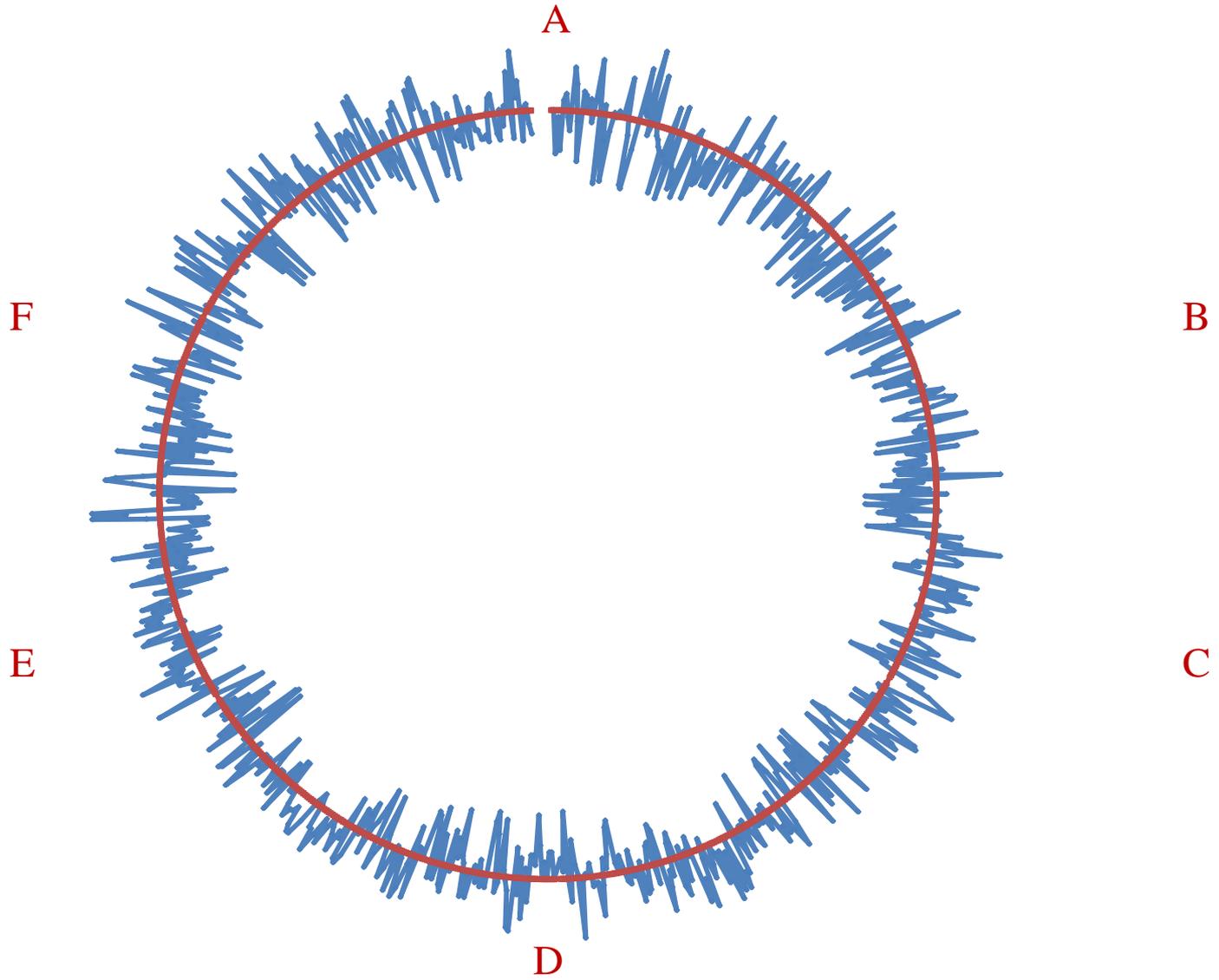
November 2004



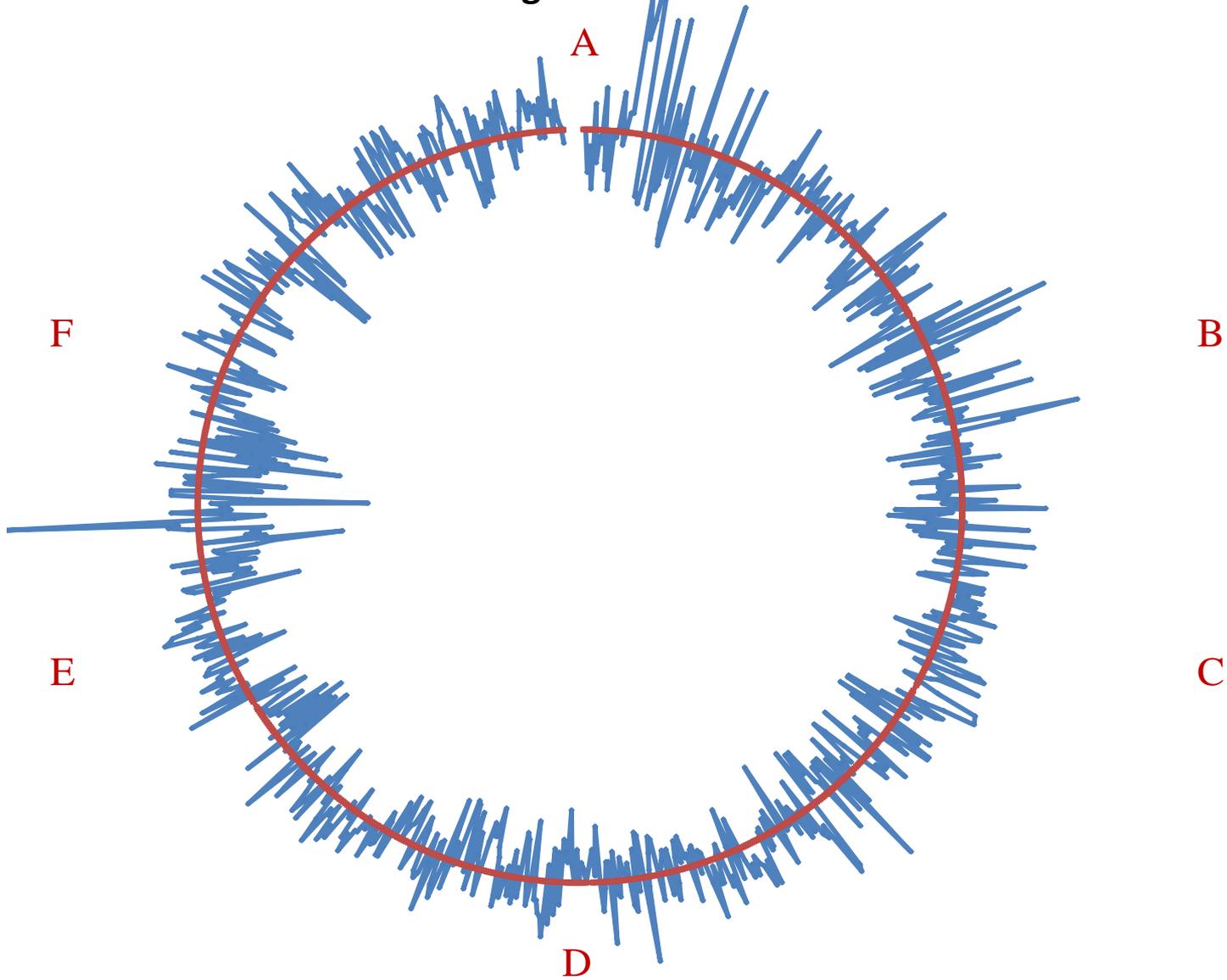
March 2006



April 2006



August 2007



Axis Title

October 2007

A

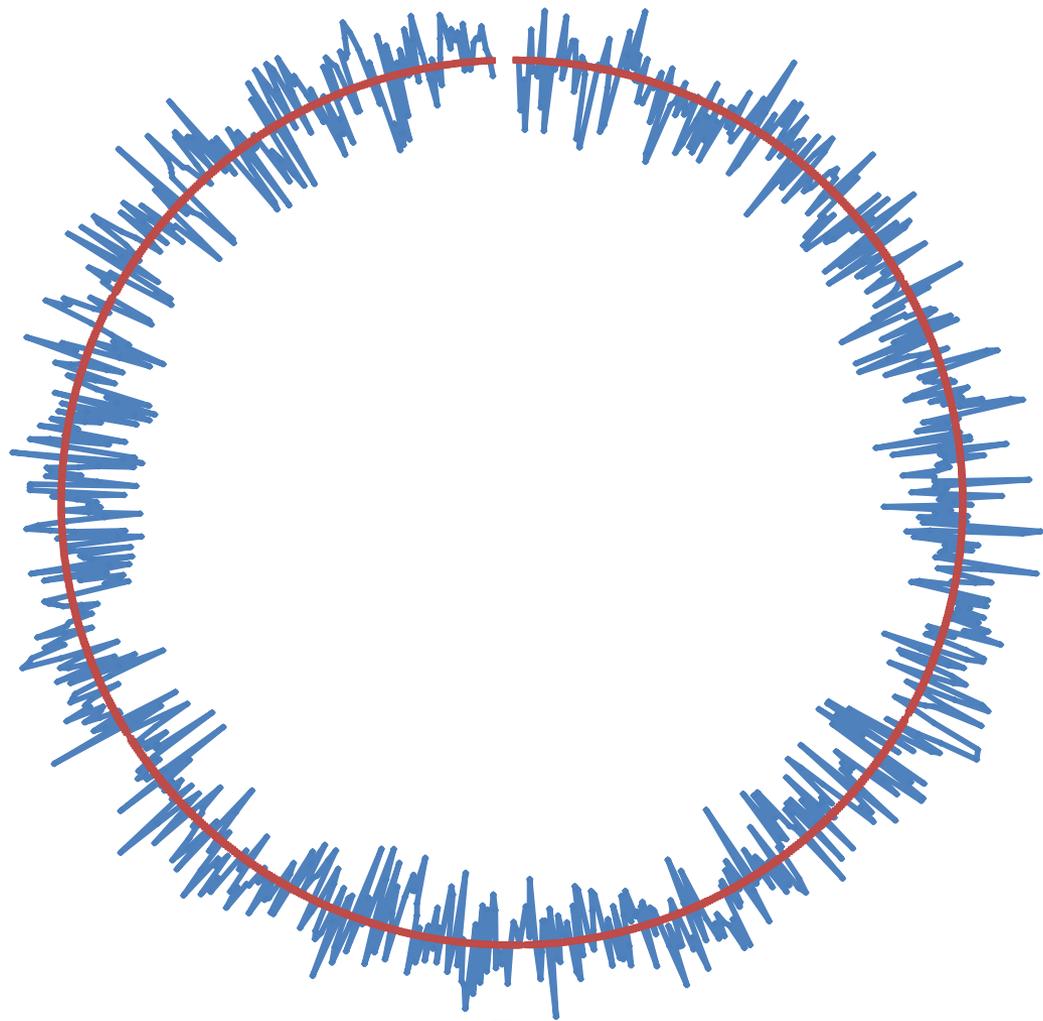
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C

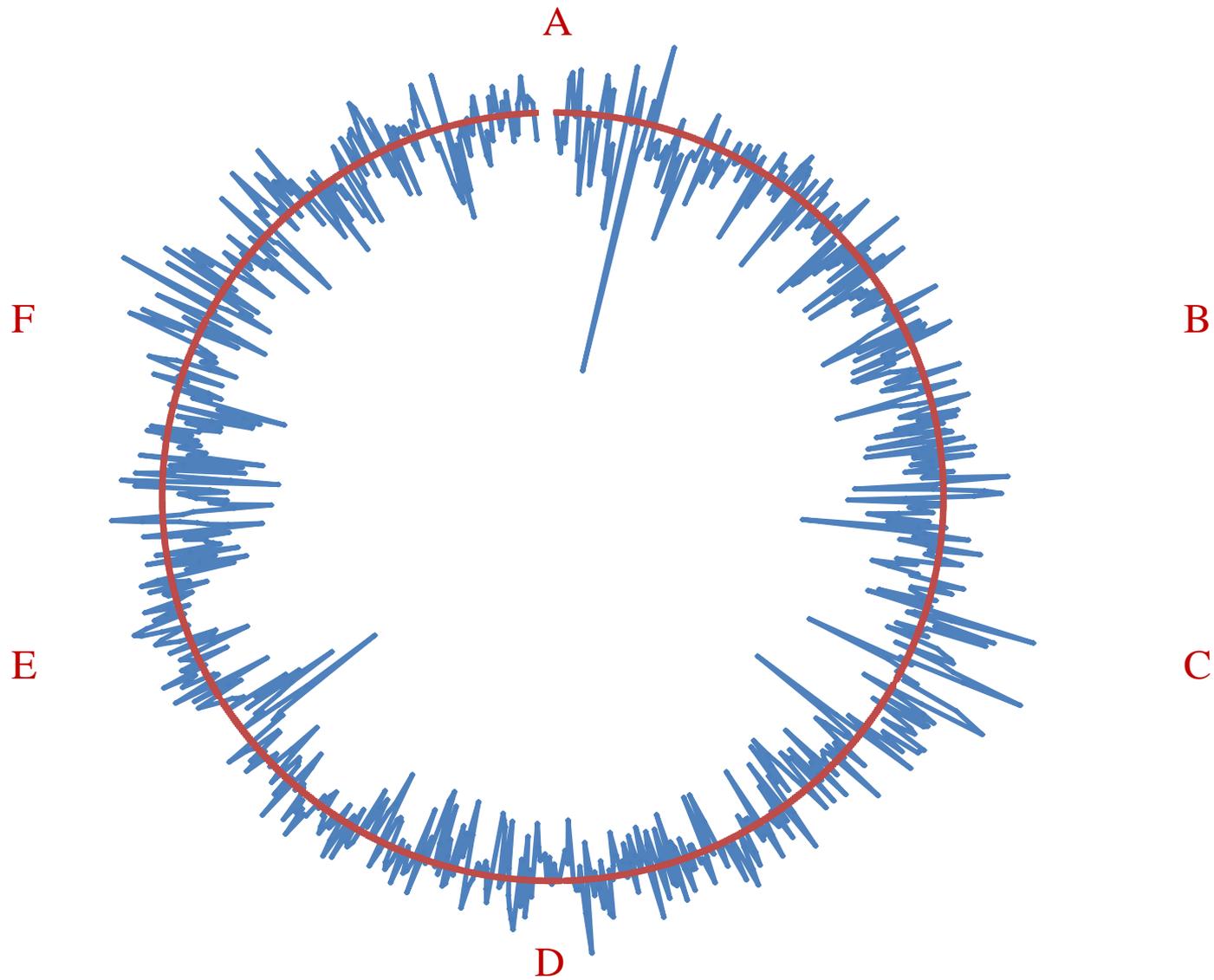
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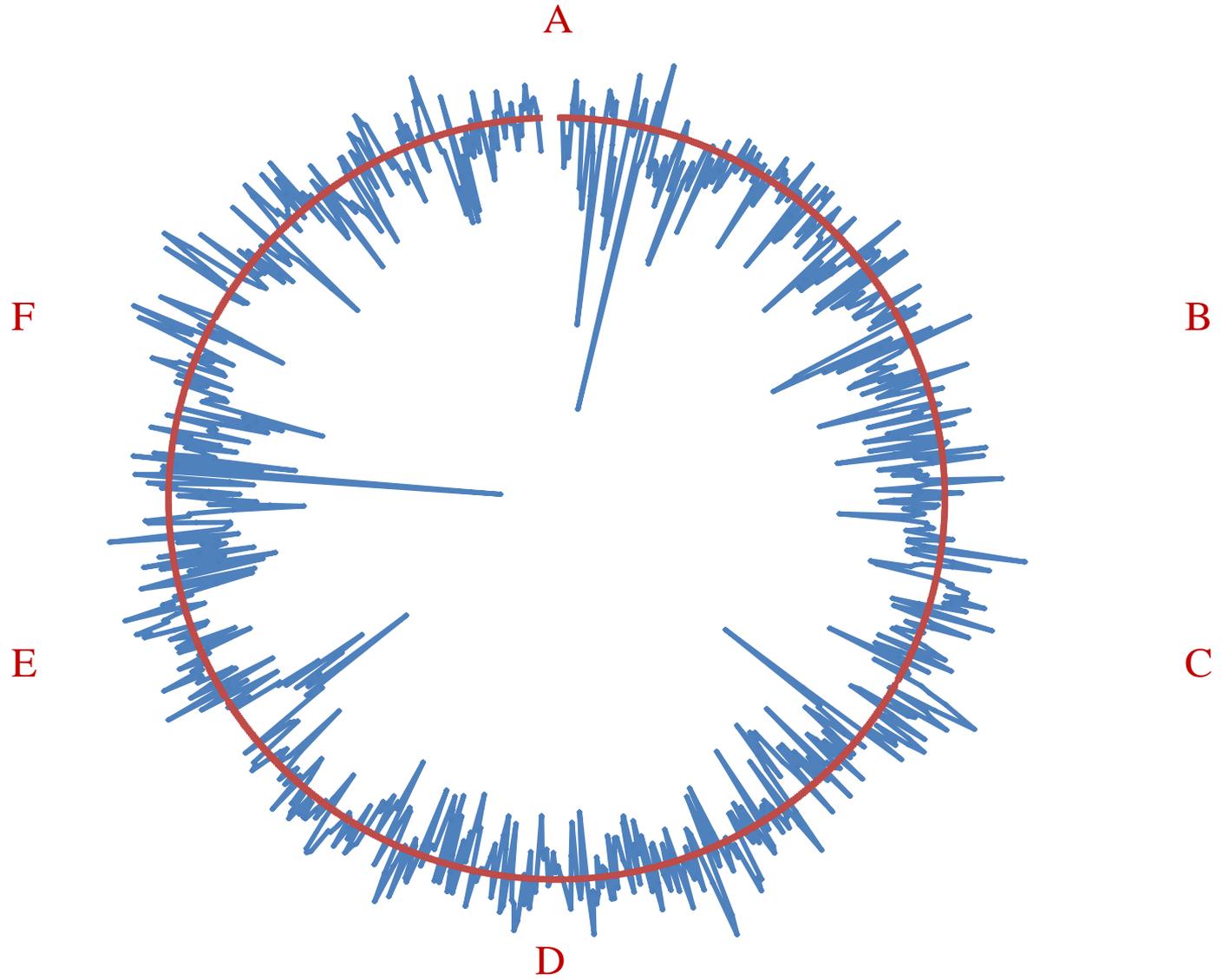
E



October 2008



June 2009



July 2010

A

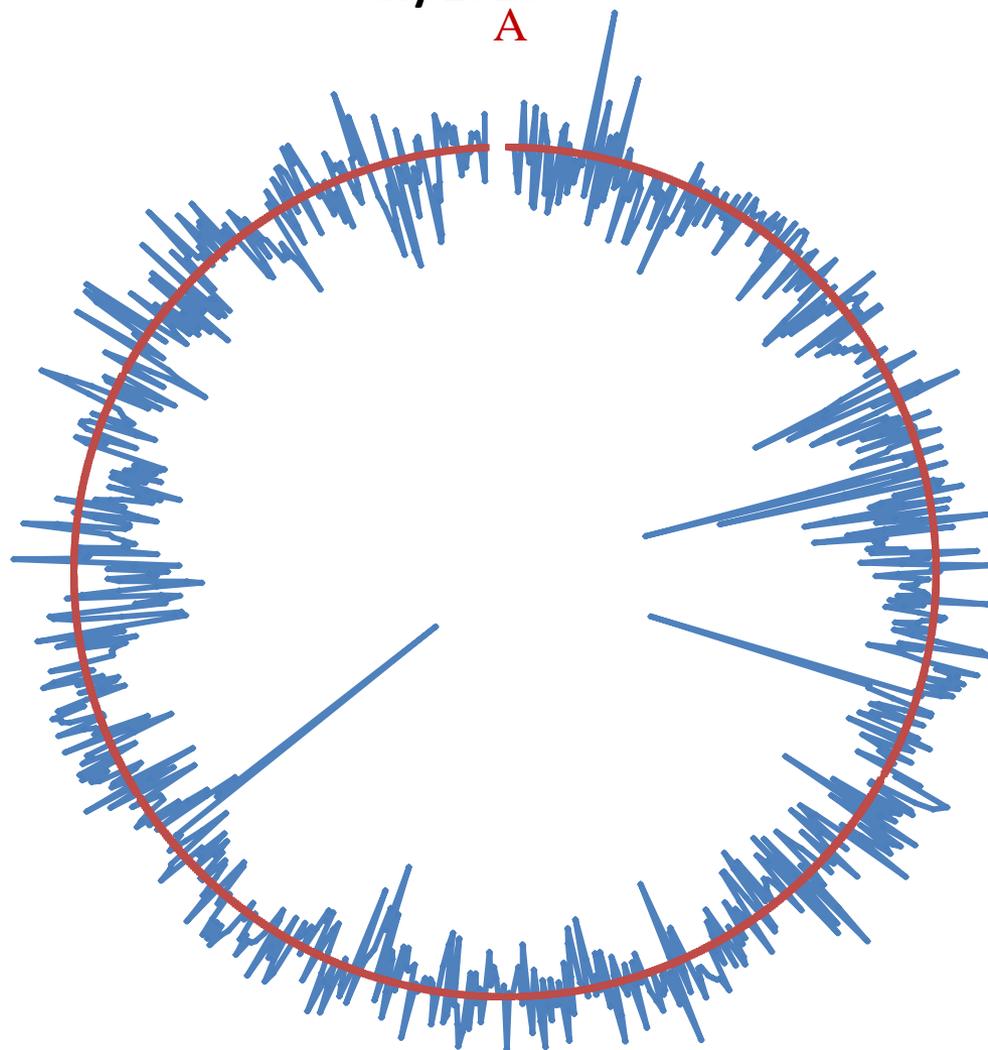
F

B

E

C

D



October 2010

A

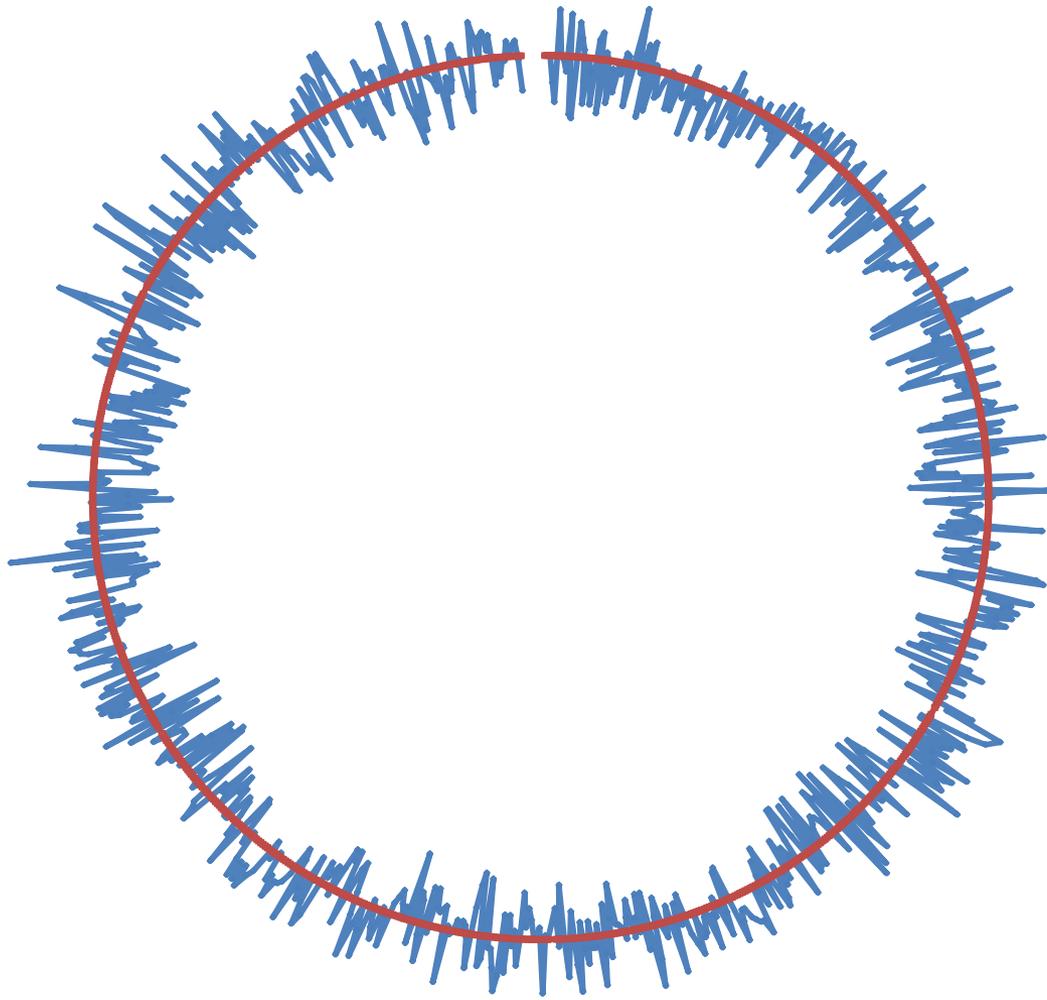
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C

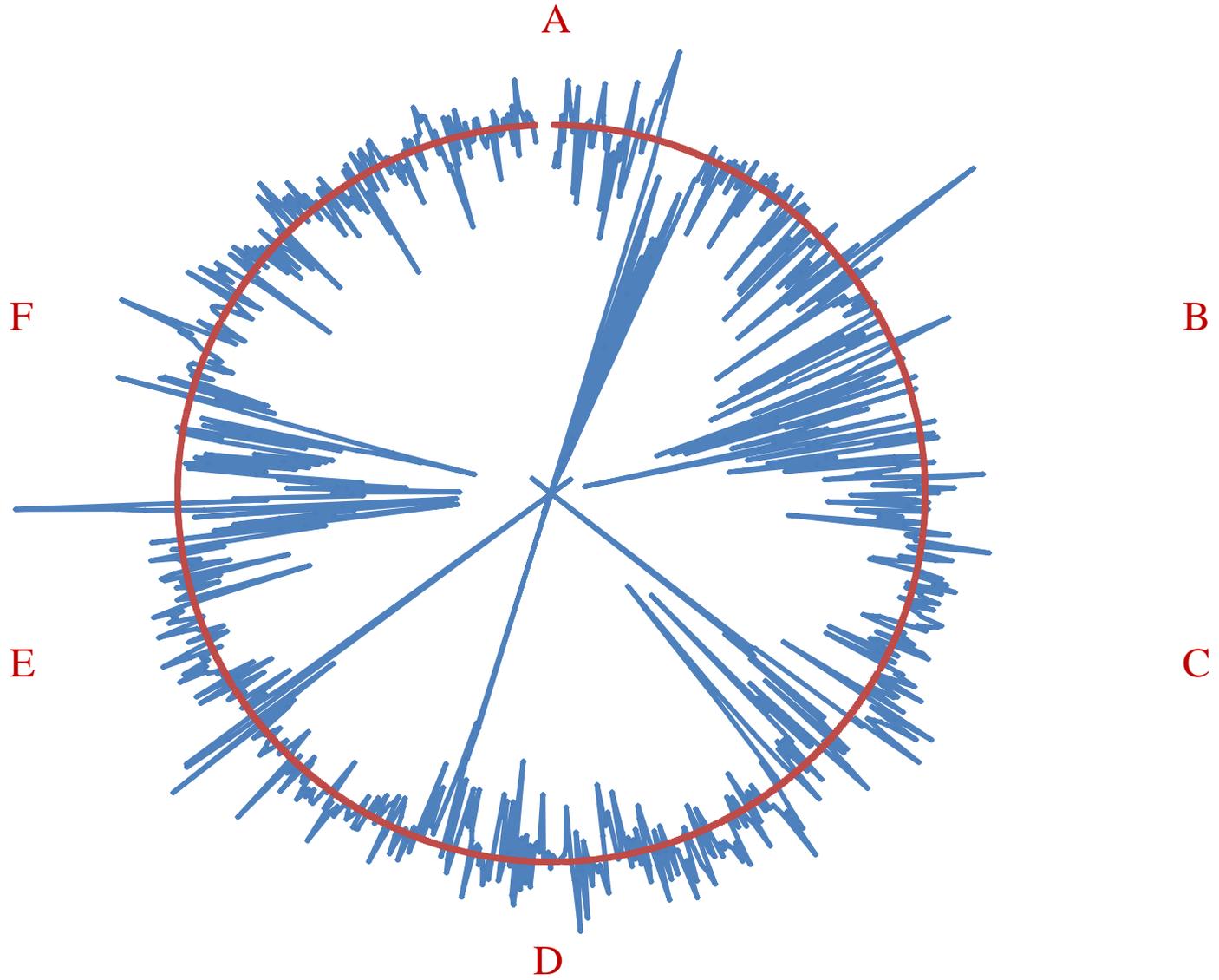
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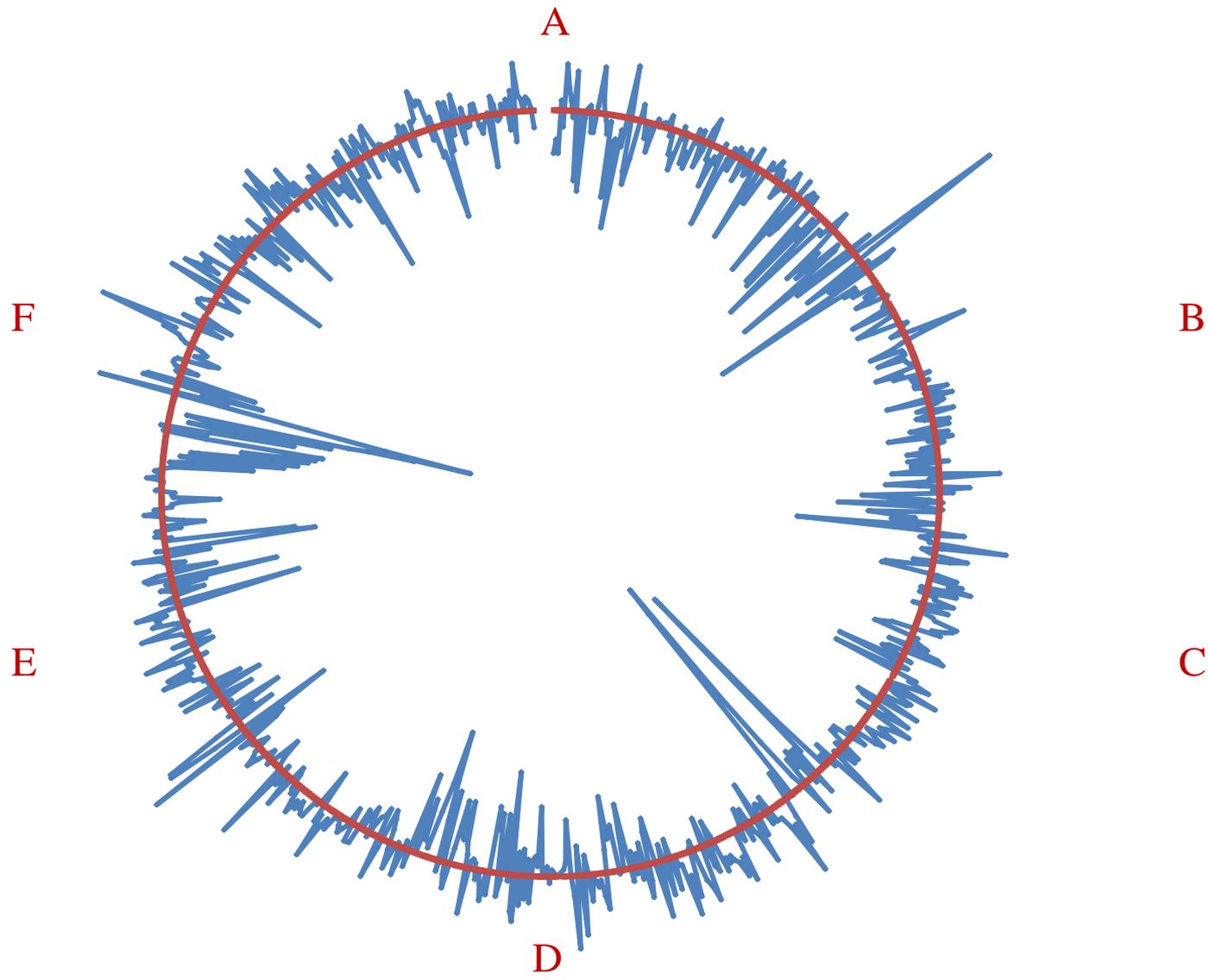
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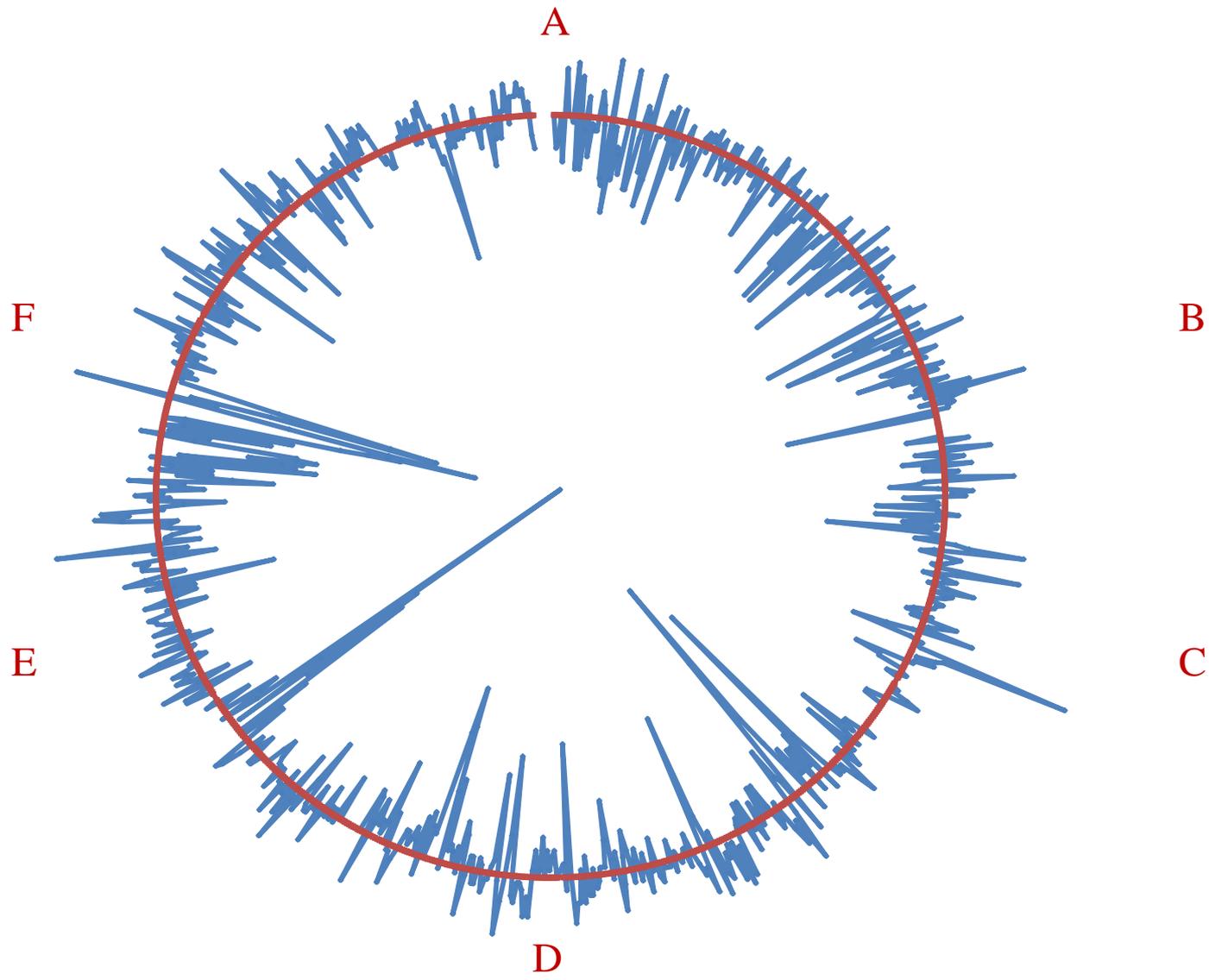
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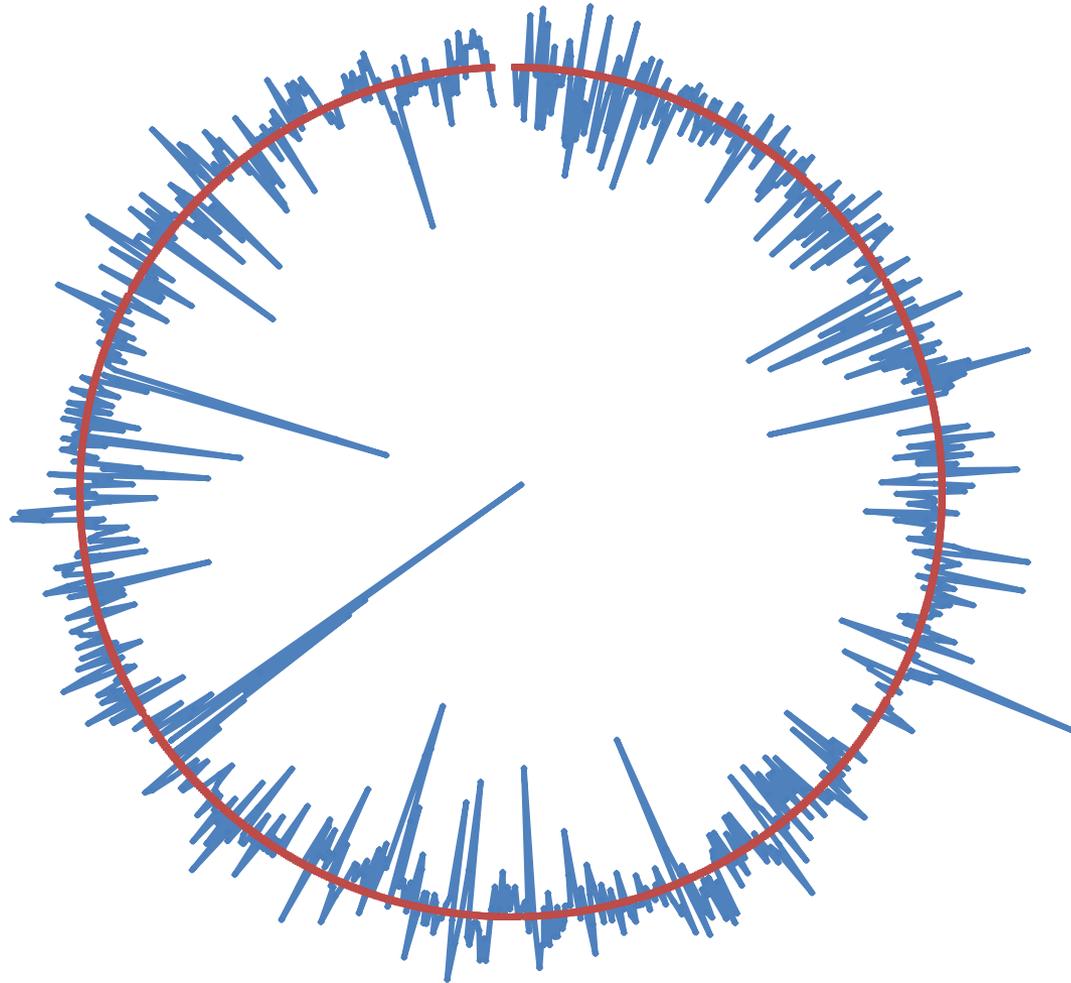
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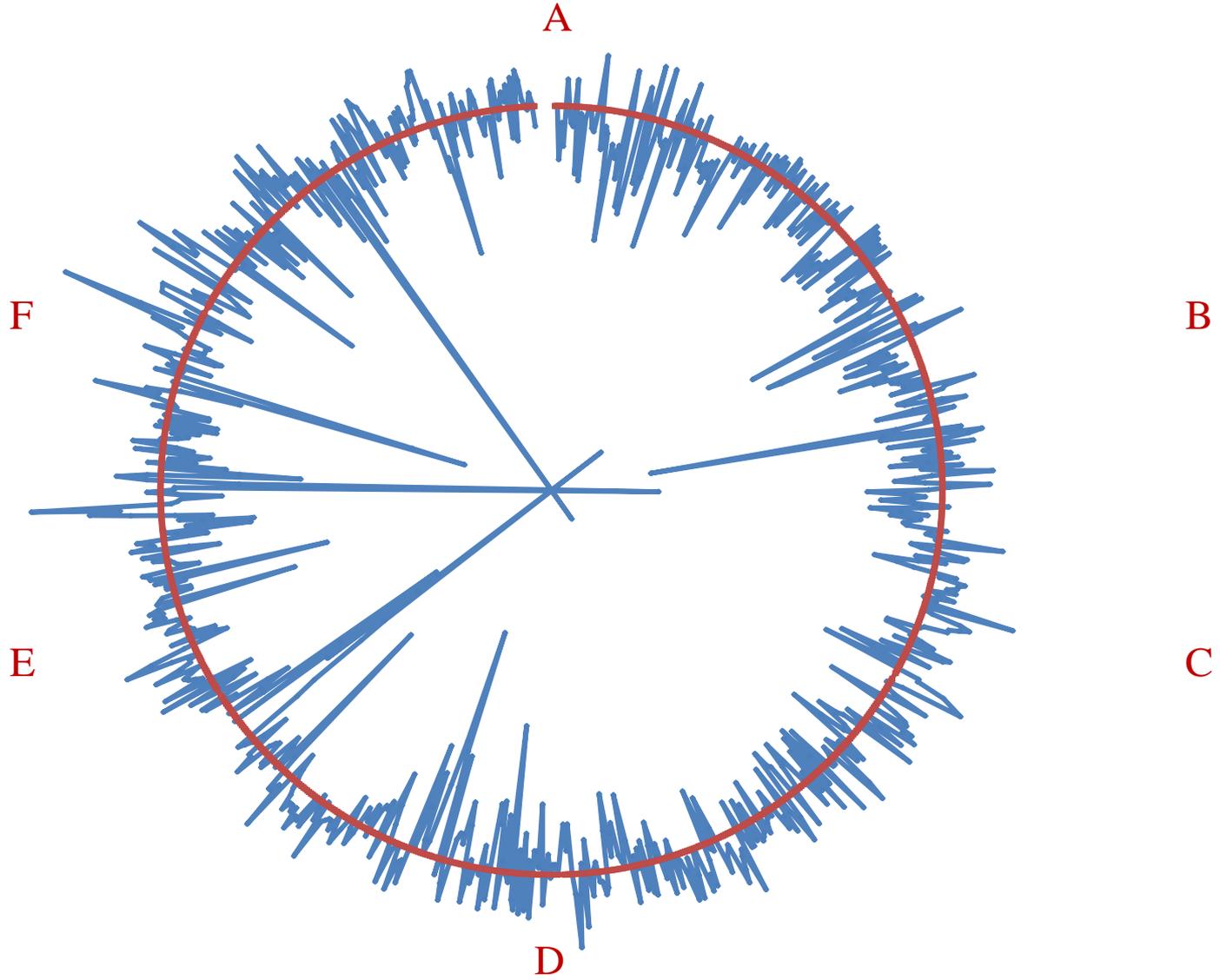
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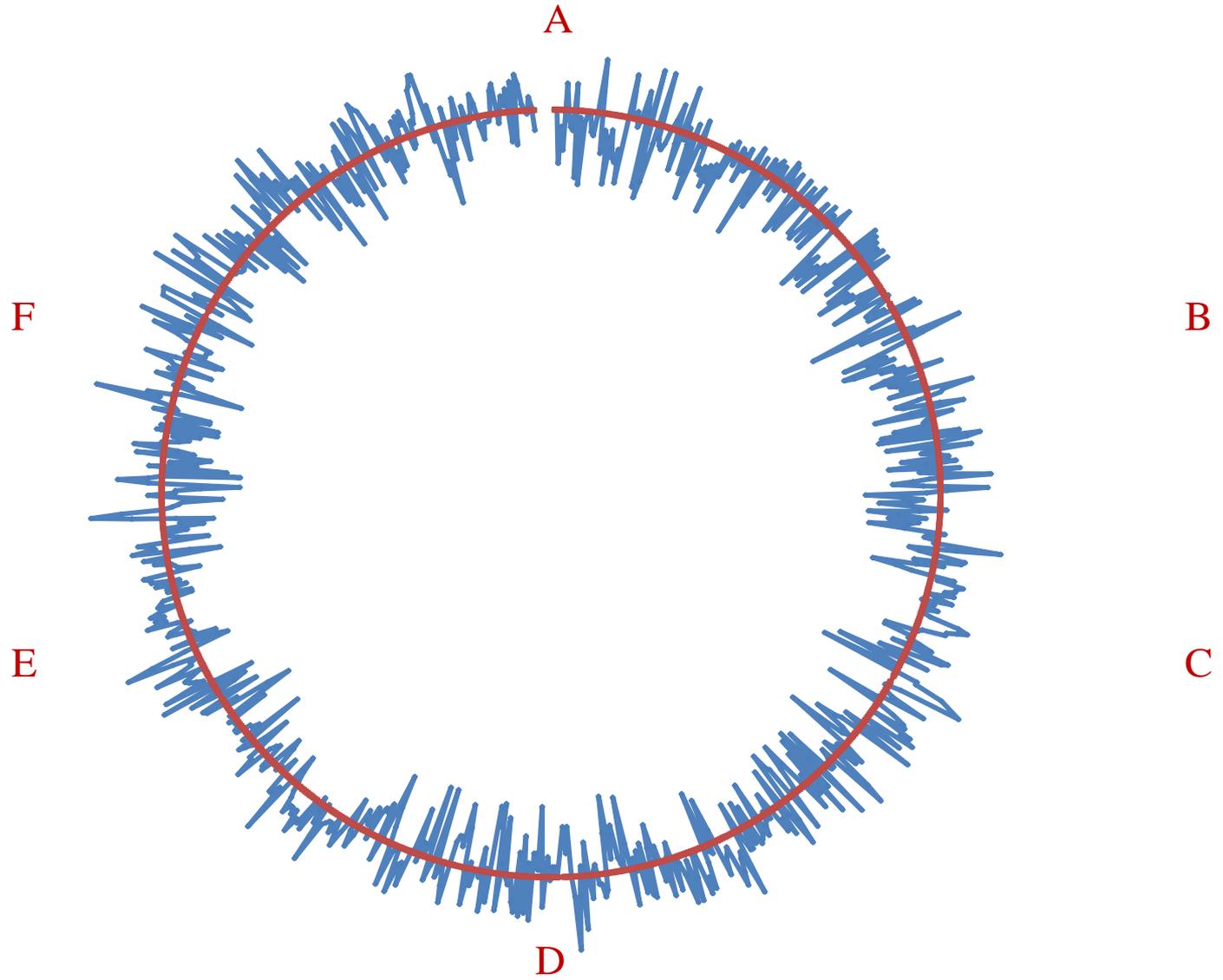
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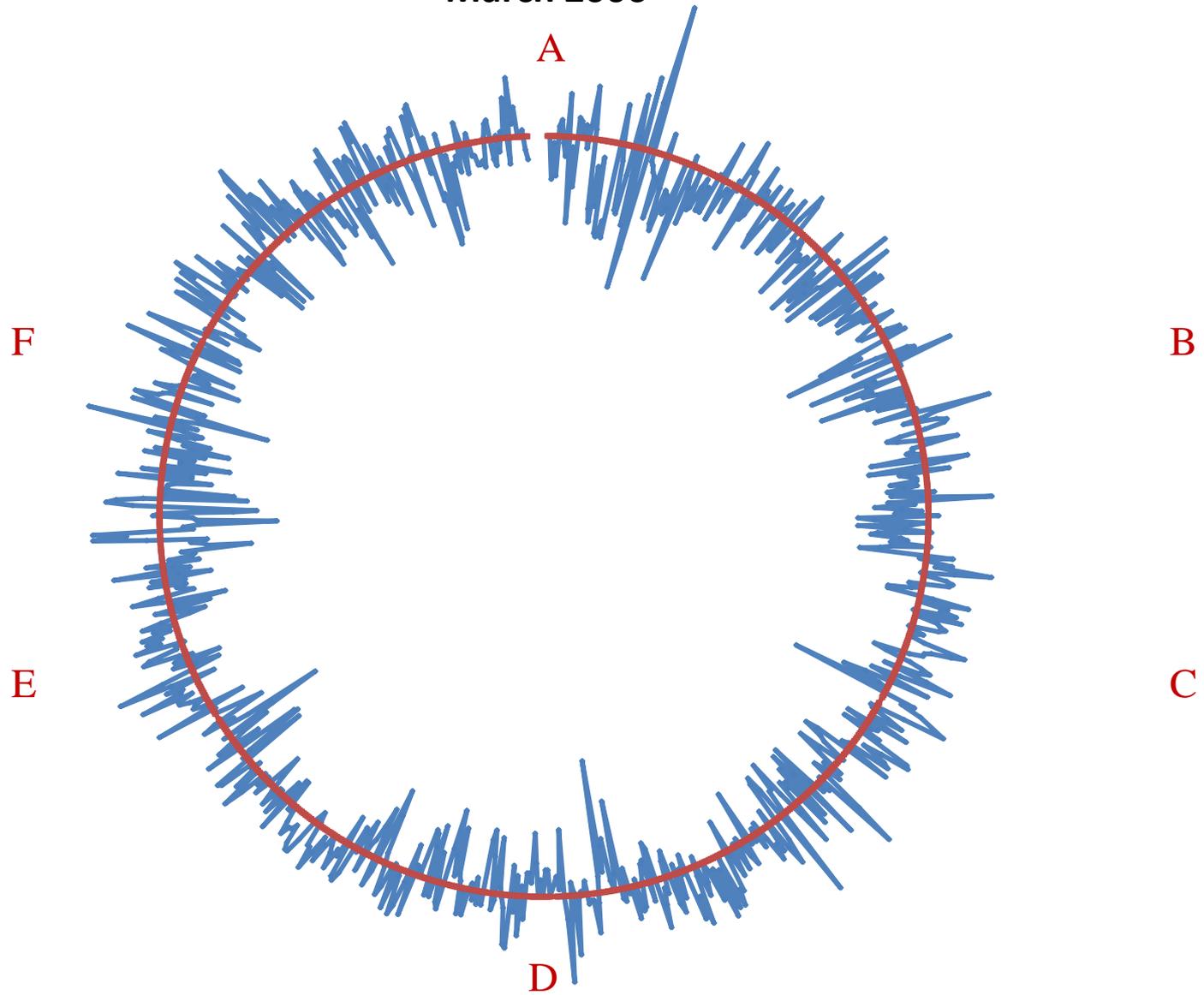
August 04



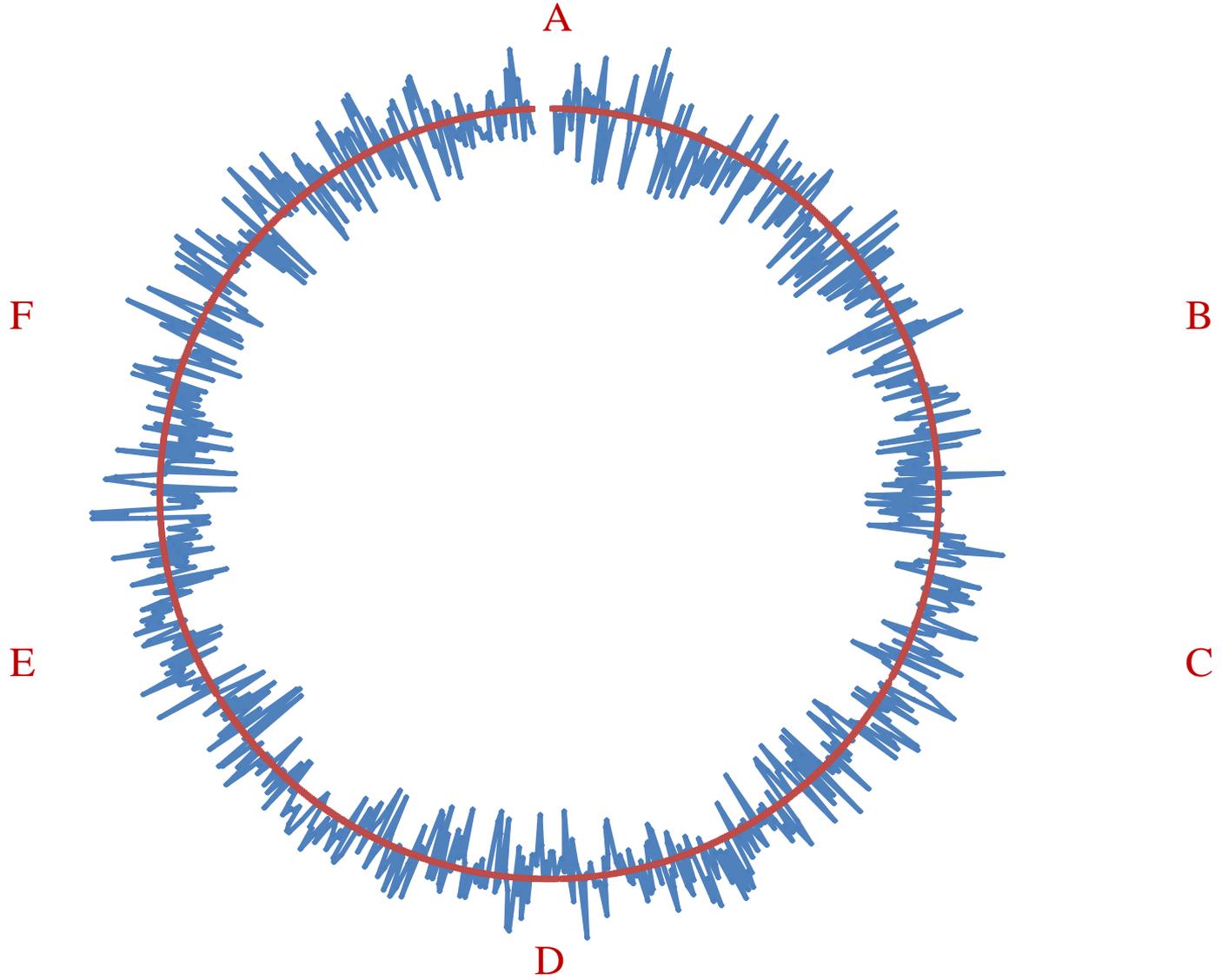
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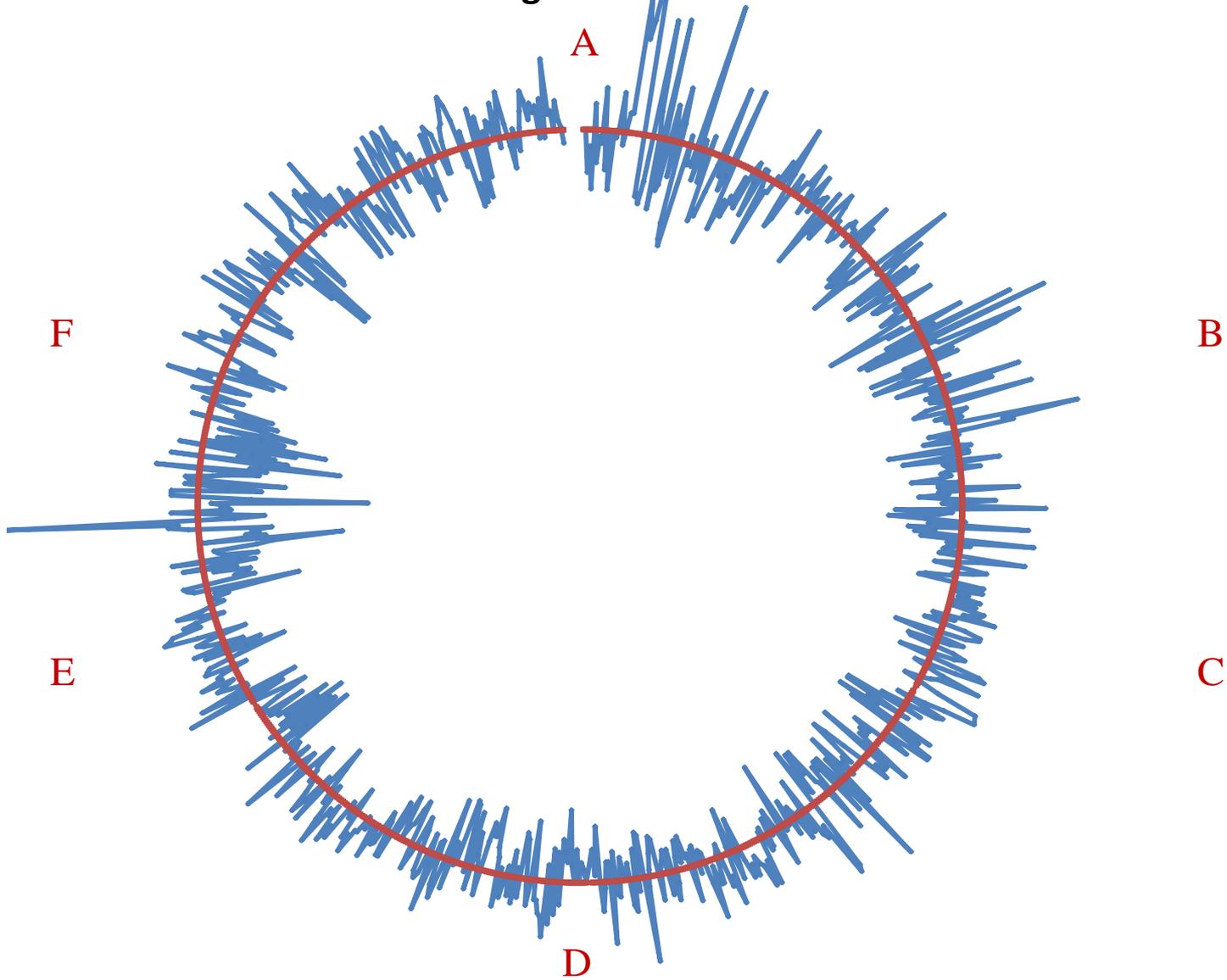
March 2006



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Axis Title

October 2007

A

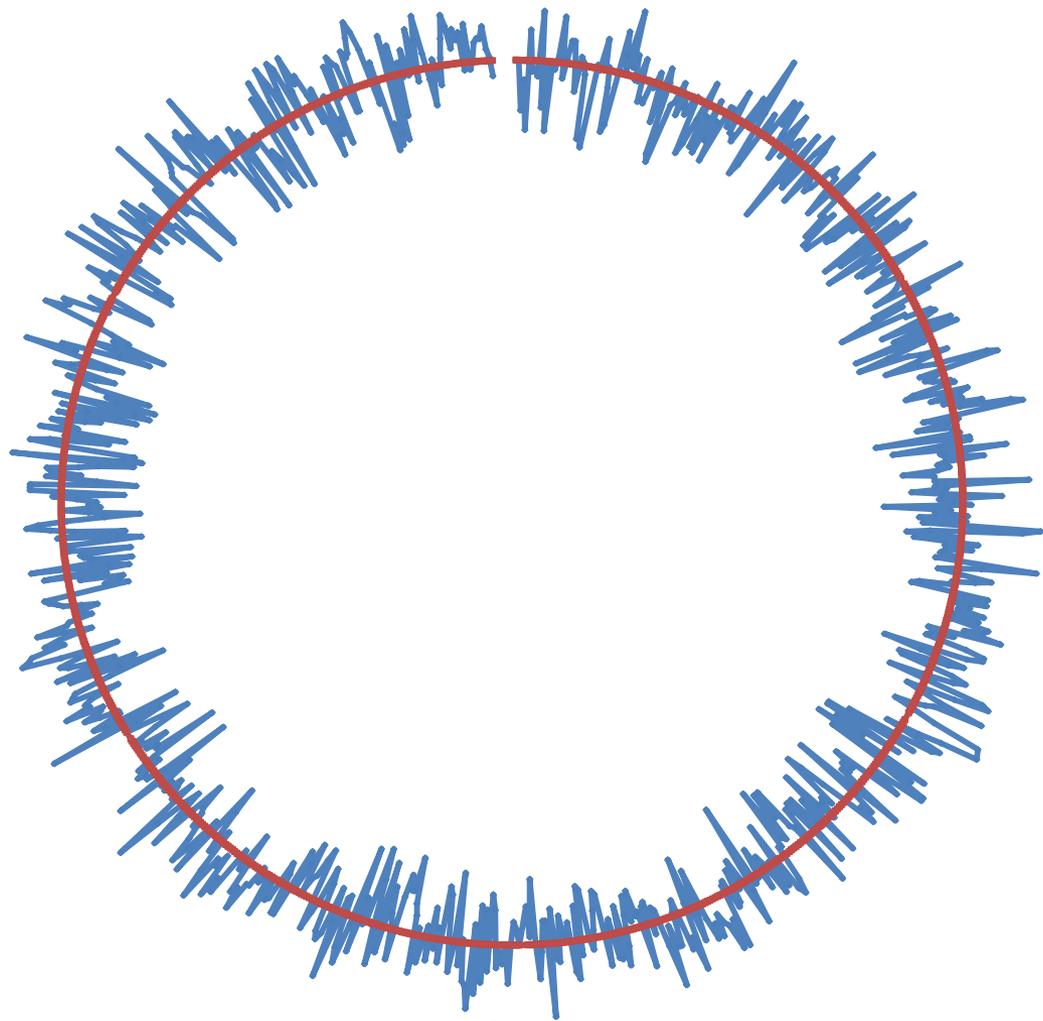
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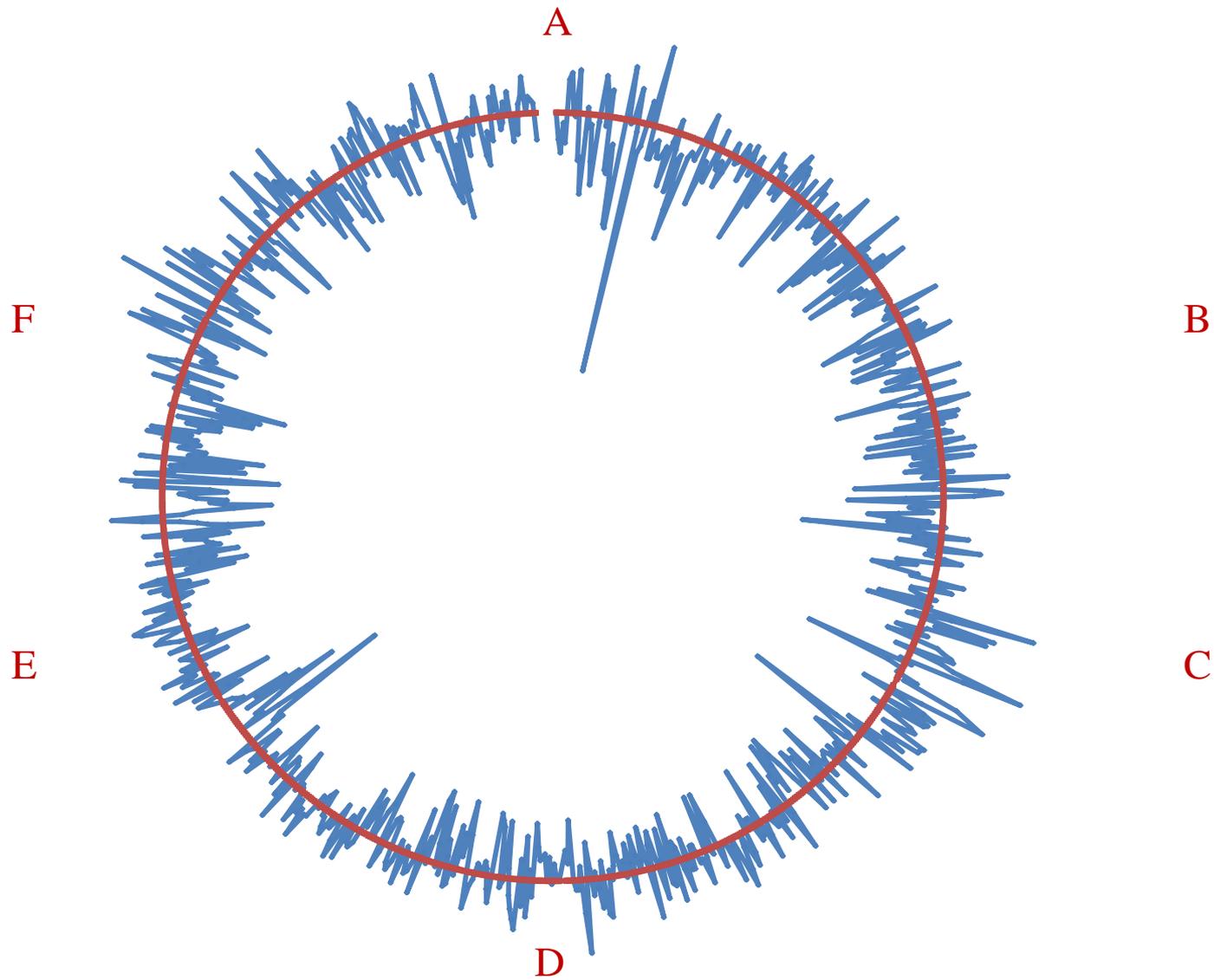
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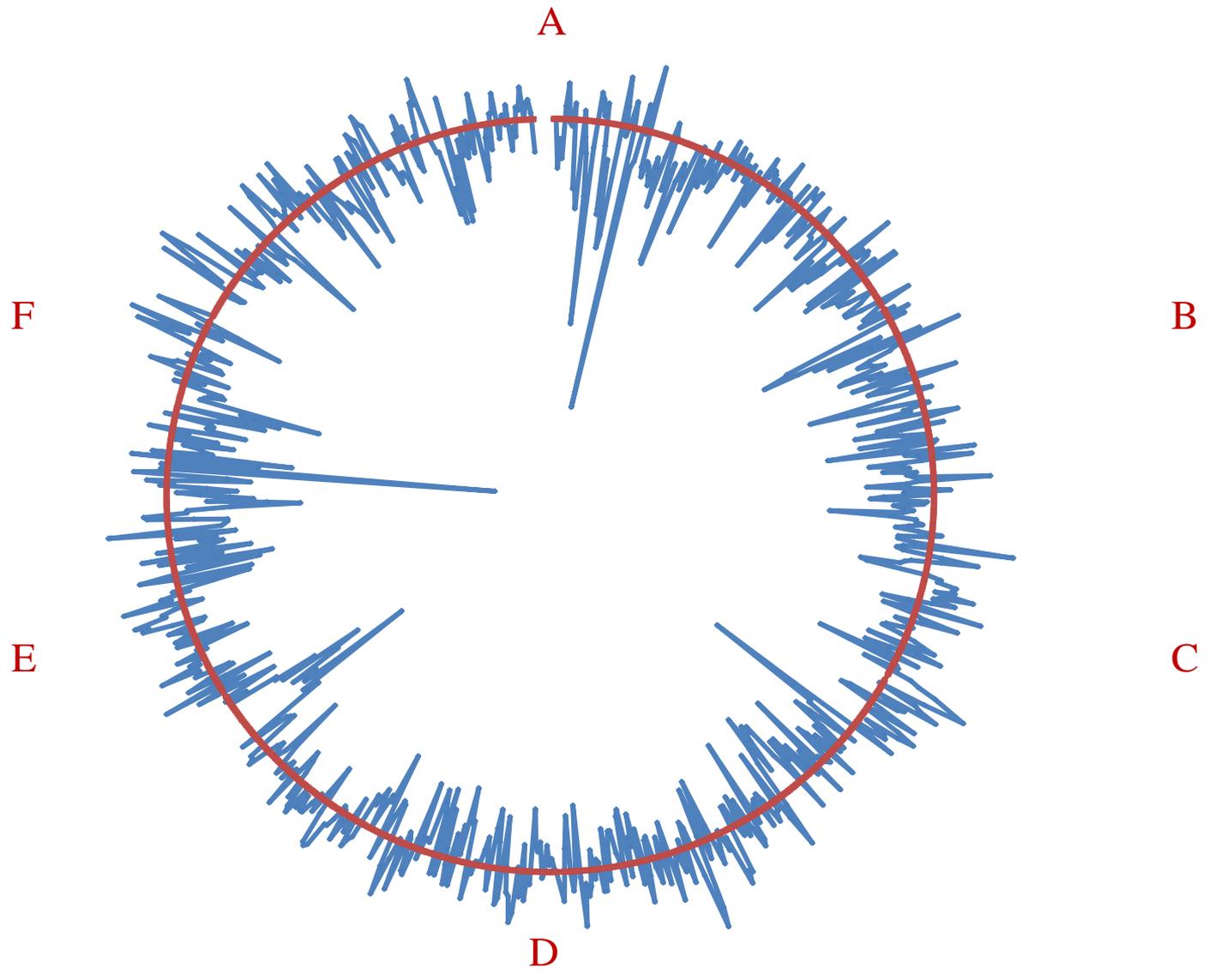
E



October 2008



June 2009



July 2010

A

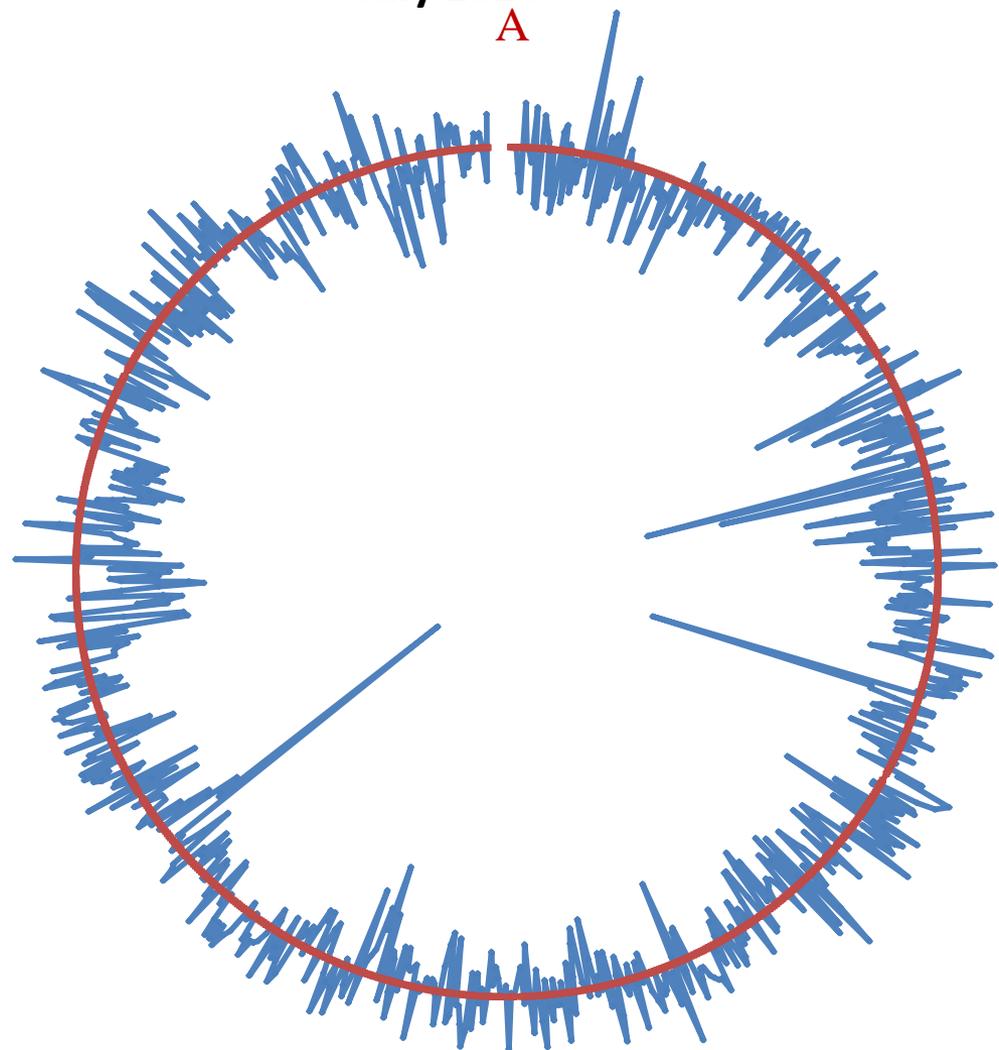
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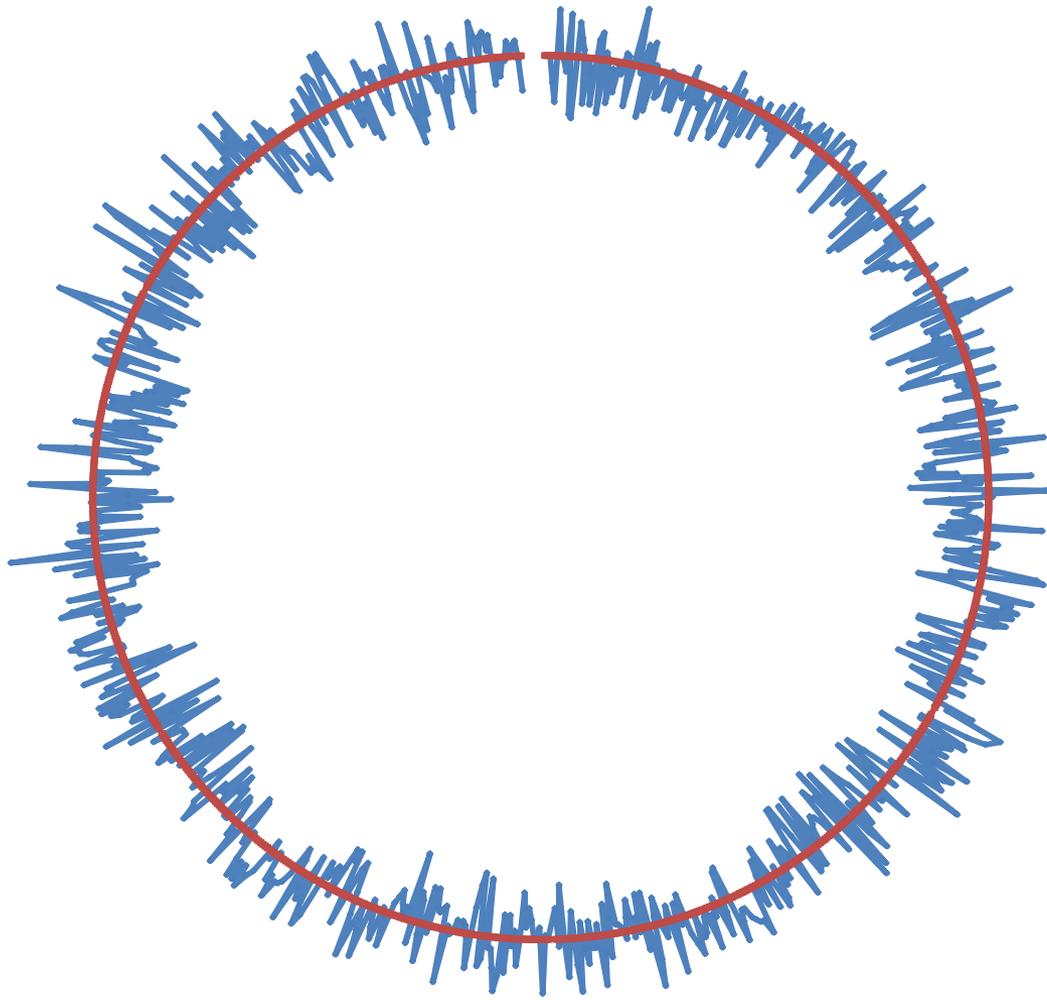
F

E



October 2010

A



F

B

E

C

D

# Conclusions

A and E sector show the most motion

These are very wet areas

The worst sections are

A18 to B2

B3

E2 to E3

And E4