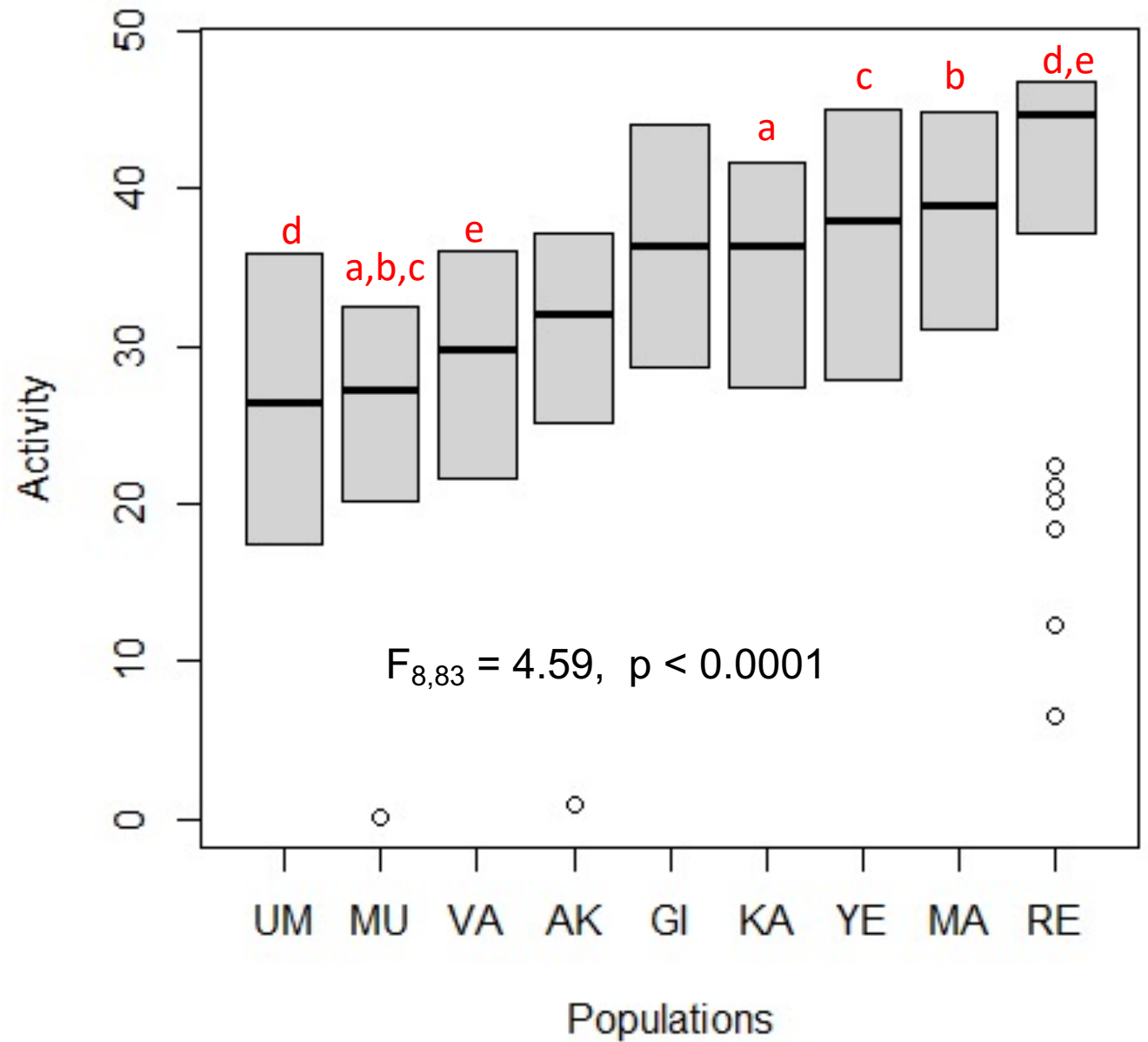


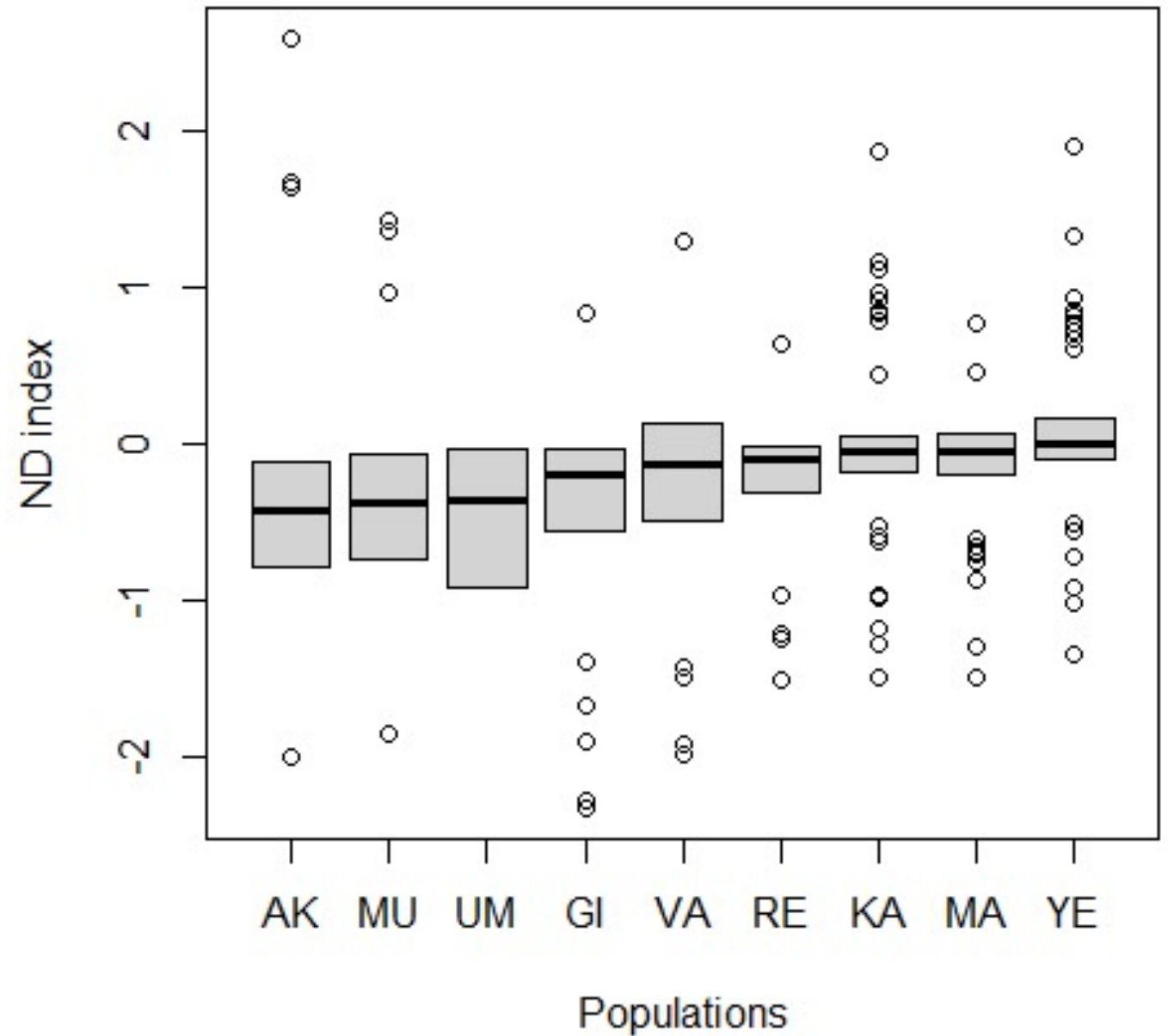
Locomotor activity



```
model.actv = lme(actv ~ Pop, random=~1|Line, data=data, method="REML")
```

ND index (ratio
of nocturnal vs
diurnal activity)

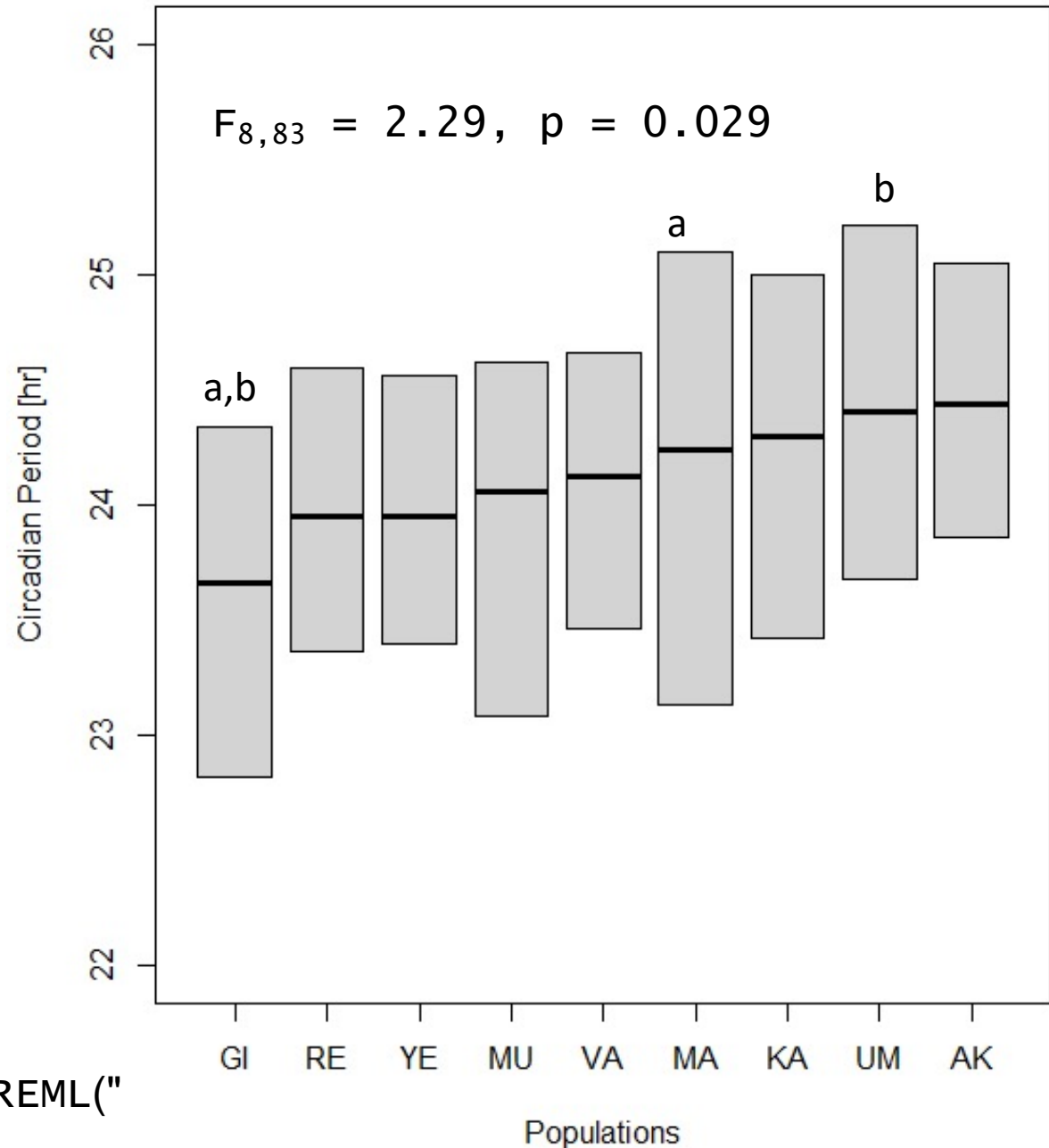
$F_{8,83} = 1.57, p=0.14$



```
model.nd = lme(ND ~ Pop, random=~1|Line, data=data, method="REML")
```

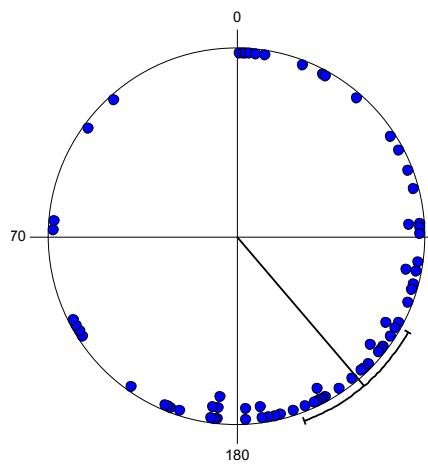
Circadian period

```
model = lme(as.numeric)Period ~ (Pop ,  
random|1=~Line + ,data=data ,method="REML(")
```

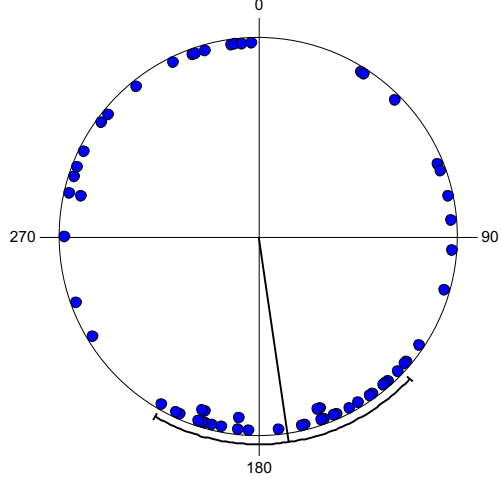


Phase in DD

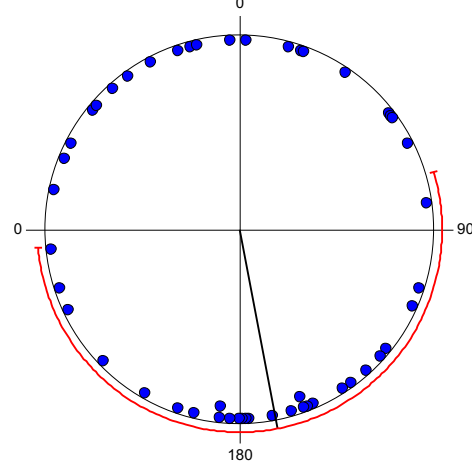
AK



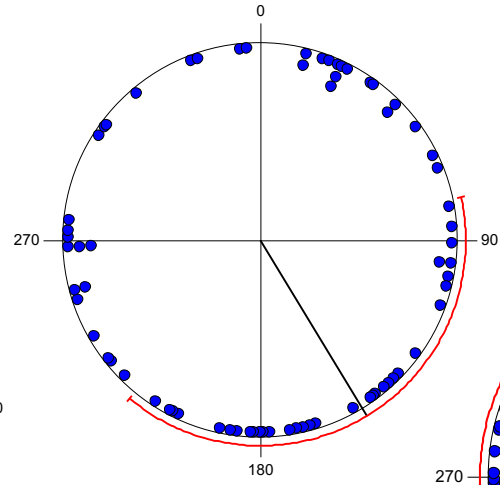
GI



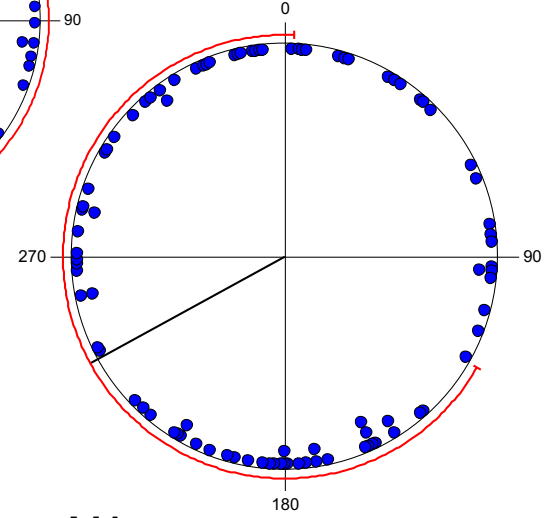
MU



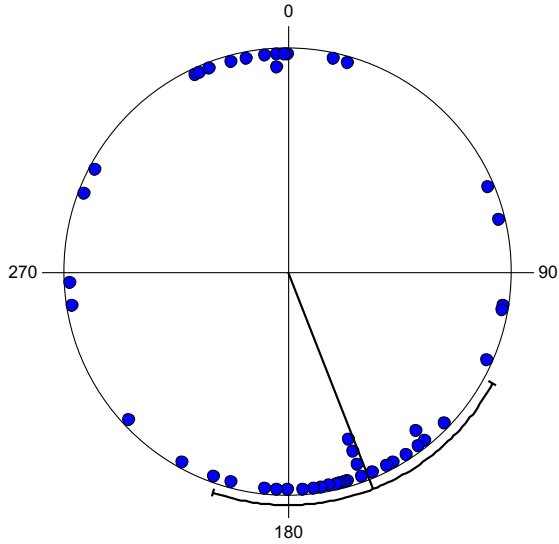
UM



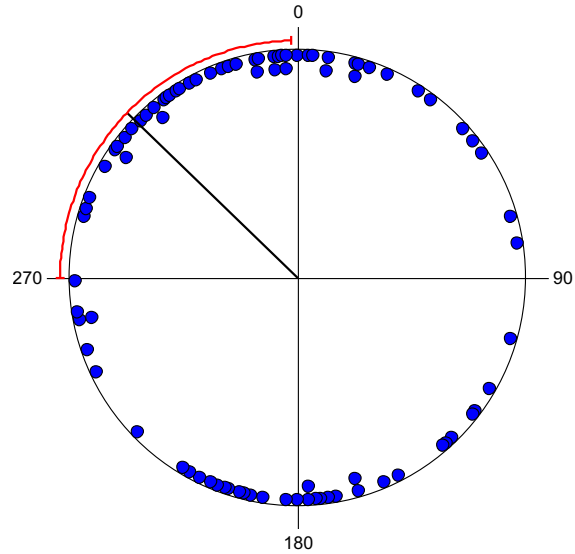
YE



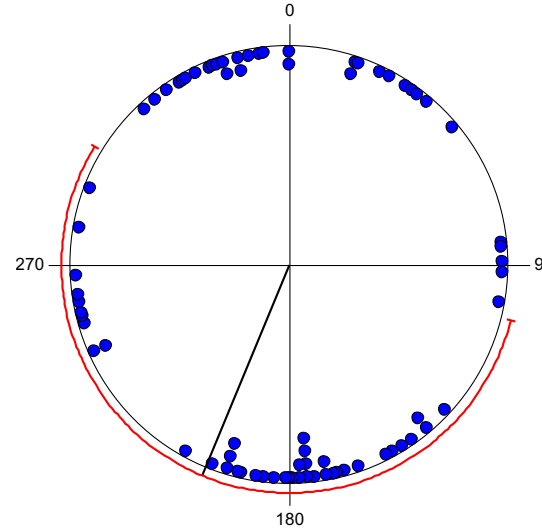
RE



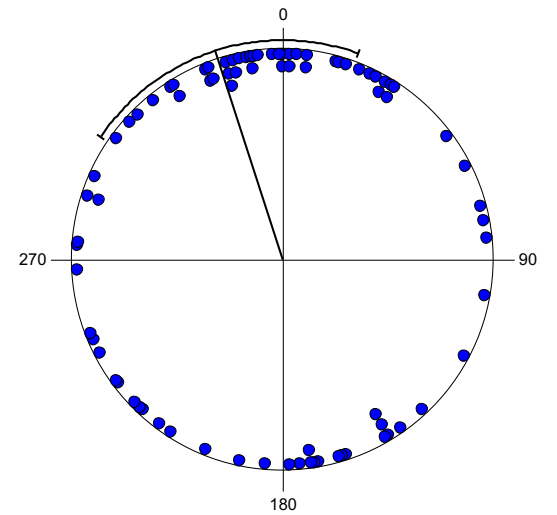
KA



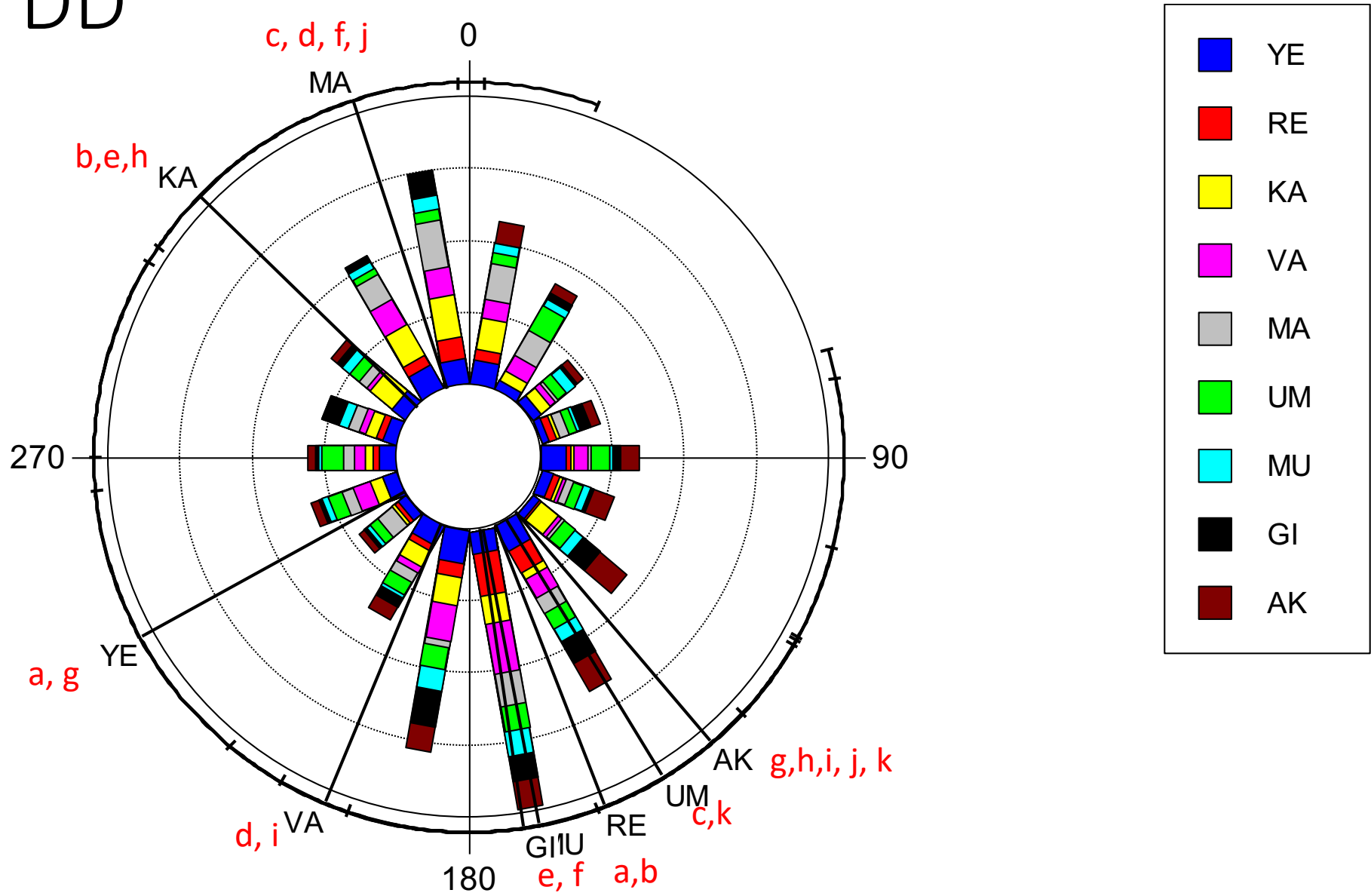
VA



MA



phase in DD



Mardia-Watson-Wheeler test: $W = 51.36$, $p = 1.39E-5$