0.1 Checking for Multicollinearity

Before including all environmental factors in your analysis, you should check if two or even more variables are exact or highly correlated. We did

```
plotltr(xmpl.ltr, "dt/3600/3")
```

To cut our data at our desired interval, we need a function which defines "dt". Because we want to keep relocations which are only a few minutes "wrong", we added 10 extra minutes.

```
foo = function(dt) {return(dt> (3800*3))}
```

Then we split the object of class ltraj into smaller bursts using `cutltraj` and the function above. The bursts we had before applying this function still remain.

```
xmpl.cut <- cutltraj(xmpl.ltr, "foo(dt)", nextr = TRUE)
```

0.2 Testing for Autocorrelation

To understand the movement patterns of an animal, is it essential to check the parameters stored in the trajectory (dist, dx, dy, angle) for autocorrelation. A positive autocorrelation means, that values closer to each other tend to be more similar.

0.2.1 Linear Parameters

To test the three linear parameters (`dist, dx, dy`), the independence test of Wald and Wolfowitz (1994) can be used. It tests the sequential autocorrelation in a vector. It can be implemented as `wawotest.ltraj` for each burst in a `ltraj` object. This function removes all NAs before running the test. [**?**]

wawotest(xmpl.) ???? insert the right data!

To identify at which scales autocorrelation occurs, an autocorrelation function (ACF) can be used.