exp2=read.csv('./Experiment2.csv')

exp2$Motion=factor(exp2$Motion)

exp2$Disparity=factor(exp2$Disparity)

exp2$Animal=factor(exp2$Animal)

**Combined model with both motion type (drift balanced, luminance flipped or Fourier) and disparity of motion (crossed or uncrossed) as independent factors and animal identity as a random factor. The dependent variable was the probability of a response (either a strike or a tension)**

m=glmer(Presponse~Motion\*Disparity+(1|Animal), data=exp2, family=binomial(link='logit'))

summary(m)

Generalized linear mixed model fit by maximum likelihood (Laplace Approximation) ['glmerMod']

Family: binomial ( logit )

Formula: Presponse ~ Motion \* Disparity + (1 | Animal)

Data: exp2

AIC BIC logLik deviance df.resid

612.6 644.7 -299.3 598.6 713

Scaled residuals:

Min 1Q Median 3Q Max

-3.4946 -0.4042 -0.1555 0.4674 7.8947

Random effects:

Groups Name Variance Std.Dev.

Animal (Intercept) 1.416 1.19

Number of obs: 720, groups: Animal, 10

Fixed effects:

Estimate Std. Error z value Pr(>|z|)

(Intercept) -2.4322 0.4923 -4.940 7.80e-07 \*\*\*

Motion2 0.4107 0.4080 1.007 0.314

Motion3 -0.5351 0.4685 -1.142 0.253

Disparity1 3.0674 0.3910 7.845 4.33e-15 \*\*\*

Motion2:Disparity1 0.8361 0.5278 1.584 0.113

Motion3:Disparity1 0.9051 0.5592 1.618 0.106

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Correlation of Fixed Effects:

(Intr) Motin2 Motin3 Dsprt1 Mt2:D1

Motion2 -0.466

Motion3 -0.390 0.477

Disparity1 -0.539 0.591 0.486

Mtn2:Dsprt1 0.346 -0.772 -0.370 -0.652

Mtn3:Dsprt1 0.322 -0.399 -0.838 -0.604 0.464

**Without interactions BEST MODEL**

m1=glmer(Presponse~Motion+Disparity+(1|Animal), data=exp2, family=binomial(link='logit'))

summary(m1)

Generalized linear mixed model fit by maximum likelihood (Laplace Approximation) ['glmerMod']

Family: binomial ( logit )

Formula: Presponse ~ Motion + Disparity + (1 | Animal)

Data: exp2

AIC BIC logLik deviance df.resid

612.0 634.9 -301.0 602.0 715

Scaled residuals:

Min 1Q Median 3Q Max

-3.2645 -0.3464 -0.1492 0.4932 9.5143

Random effects:

Groups Name Variance Std.Dev.

Animal (Intercept) 1.399 1.183

Number of obs: 720, groups: Animal, 10

Fixed effects:

Estimate Std. Error z value Pr(>|z|)

(Intercept) -2.82799 0.45809 -6.173 6.68e-10 \*\*\*

Motion2 0.94677 0.26173 3.617 0.000298 \*\*\*

Motion3 0.09861 0.25636 0.385 0.700494

Disparity1 3.63851 0.26574 13.692 < 2e-16 \*\*\*

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Correlation of Fixed Effects:

(Intr) Motin2 Motin3

Motion2 -0.361

Motion3 -0.289 0.495

Disparity1 -0.420 0.204 0.020

**Disparity only**

m2=glmer(Presponse~Disparity+(1|Animal), data=exp2, family=binomial(link='logit'))

summary(m2)

Generalized linear mixed model fit by maximum likelihood (Laplace Approximation) ['glmerMod']

Family: binomial ( logit )

Formula: Presponse ~ Disparity + (1 | Animal)

Data: exp2

AIC BIC logLik deviance df.resid

624.4 638.2 -309.2 618.4 717

Scaled residuals:

Min 1Q Median 3Q Max

-2.3514 -0.3844 -0.1706 0.4476 7.4604

Random effects:

Groups Name Variance Std.Dev.

Animal (Intercept) 1.312 1.146

Number of obs: 720, groups: Animal, 10

Fixed effects:

Estimate Std. Error z value Pr(>|z|)

(Intercept) -2.4012 0.4118 -5.832 5.49e-09 \*\*\*

Disparity1 3.5199 0.2561 13.743 < 2e-16 \*\*\*

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Correlation of Fixed Effects:

(Intr)

Disparity1 -0.404

**Motion only**

m3=glmer(Presponse~Motion+(1|Animal), data=exp2, family=binomial(link='logit'))

summary(m3)

Generalized linear mixed model fit by maximum likelihood (Laplace Approximation) ['glmerMod']

Family: binomial ( logit )

Formula: Presponse ~ Motion + (1 | Animal)

Data: exp2

AIC BIC logLik deviance df.resid

929.0 947.3 -460.5 921.0 716

Scaled residuals:

Min 1Q Median 3Q Max

-1.8718 -0.8423 -0.5456 0.9266 2.1614

Random effects:

Groups Name Variance Std.Dev.

Animal (Intercept) 0.4484 0.6696

Number of obs: 720, groups: Animal, 10

Fixed effects:

Estimate Std. Error z value Pr(>|z|)

(Intercept) -0.57823 0.25427 -2.274 0.02296 \*

Motion2 0.54615 0.19523 2.797 0.00515 \*\*

Motion3 0.05858 0.19738 0.297 0.76663

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Correlation of Fixed Effects:

(Intr) Motin2

Motion2 -0.398

Motion3 -0.391 0.509