

# Inversion Statistics

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## Statistical analysis of inversion marker frequencies

### Type3 ANOVA

For all inversions globally

Table 1: In(3R)Payne

|                    | LR Chisq  | Df | Pr(>Chisq) |
|--------------------|-----------|----|------------|
| lat                | 6.771312  | 1  | 0.0092635  |
| long               | 6.791804  | 1  | 0.0091577  |
| continent          | 11.930059 | 5  | 0.0357588  |
| lat:long           | 2.459512  | 1  | 0.1168151  |
| lat:continent      | 10.107846 | 5  | 0.0722365  |
| long:continent     | 13.806014 | 5  | 0.0168897  |
| lat:long:continent | 12.235225 | 5  | 0.0317030  |

Table 2: In(2L)t

|                    | LR Chisq   | Df | Pr(>Chisq) |
|--------------------|------------|----|------------|
| lat                | 3.1138701  | 1  | 0.0776283  |
| long               | 3.3185224  | 1  | 0.0685034  |
| continent          | 34.4506478 | 5  | 0.0000019  |
| lat:long           | 0.4155189  | 1  | 0.5191815  |
| lat:continent      | 42.1654357 | 5  | 0.0000001  |
| long:continent     | 10.3150641 | 5  | 0.0667847  |
| lat:long:continent | 11.1736697 | 5  | 0.0480433  |

Table 3: In(2R)Ns

|               | LR Chisq   | Df | Pr(>Chisq) |
|---------------|------------|----|------------|
| lat           | 0.2804168  | 1  | 0.5964281  |
| long          | 0.1403613  | 1  | 0.7079221  |
| continent     | 12.0933847 | 5  | 0.0335304  |
| lat:long      | 0.0084000  | 1  | 0.9269748  |
| lat:continent | 14.8932083 | 5  | 0.0108285  |

|                    | LR Chisq   | Df | Pr(>Chisq) |
|--------------------|------------|----|------------|
| long:continent     | 16.6252385 | 5  | 0.0052682  |
| lat:long:continent | 17.3932130 | 5  | 0.0038114  |

Table 4: In(3R)C

|                    | LR Chisq   | Df | Pr(>Chisq) |
|--------------------|------------|----|------------|
| lat                | 0.0102974  | 1  | 0.9191725  |
| long               | 0.0164612  | 1  | 0.8979107  |
| continent          | 21.3799493 | 5  | 0.0006865  |
| lat:long           | 0.1353973  | 1  | 0.7129002  |
| lat:continent      | 20.8438528 | 5  | 0.0008670  |
| long:continent     | 26.7844580 | 5  | 0.0000628  |
| lat:long:continent | 28.9820197 | 5  | 0.0000234  |

Table 5: In(3R)K

|                    | LR Chisq  | Df | Pr(>Chisq) |
|--------------------|-----------|----|------------|
| lat                | 31.916615 | 1  | 0.0000000  |
| long               | 18.432659 | 1  | 0.0000176  |
| continent          | 29.426154 | 5  | 0.0000191  |
| lat:long           | 11.647294 | 1  | 0.0006430  |
| lat:continent      | 33.189548 | 5  | 0.0000035  |
| long:continent     | 6.428226  | 5  | 0.2667509  |
| lat:long:continent | 9.220548  | 5  | 0.1005841  |

Table 6: In(3R)Mo

|                    | LR Chisq   | Df | Pr(>Chisq) |
|--------------------|------------|----|------------|
| lat                | -0.0000002 | 1  | 1.0000000  |
| long               | 0.0000001  | 1  | 0.9998063  |
| continent          | 1.8332723  | 5  | 0.8717003  |
| lat:long           | 0.0000010  | 1  | 0.9991967  |
| lat:continent      | 2.7665108  | 5  | 0.7359286  |
| long:continent     | 2.6152480  | 5  | 0.7590472  |
| lat:long:continent | 2.5483653  | 5  | 0.7691942  |

Table 7: In(3L)P

|                | LR Chisq   | Df | Pr(>Chisq) |
|----------------|------------|----|------------|
| lat            | 1.7982776  | 1  | 0.1799209  |
| long           | 0.2384190  | 1  | 0.6253504  |
| continent      | 44.7111203 | 5  | 0.0000000  |
| lat:long       | 0.2293871  | 1  | 0.6319787  |
| lat:continent  | 36.0846087 | 5  | 0.0000009  |
| long:continent | 14.5056191 | 5  | 0.0126974  |

|                    | LR Chisq   | Df | Pr(>Chisq) |
|--------------------|------------|----|------------|
| lat:long:continent | 14.7870438 | 5  | 0.0113121  |

**For all inversions per continent**

### 1) Europe

Table 8: In(3R)Payne

|          | LR Chisq  | Df | Pr(>Chisq) |
|----------|-----------|----|------------|
| lat      | 75.968613 | 1  | 0.0000000  |
| long     | 5.426770  | 1  | 0.0198303  |
| lat:long | 4.962911  | 1  | 0.0258966  |

Table 9: In(2L)t

|          | LR Chisq | Df | Pr(>Chisq) |
|----------|----------|----|------------|
| lat      | 21.53212 | 1  | 3.5e-06    |
| long     | 34.01082 | 1  | 0.0e+00    |
| lat:long | 35.76151 | 1  | 0.0e+00    |

Table 10: In(2R)Ns

|          | LR Chisq  | Df | Pr(>Chisq) |
|----------|-----------|----|------------|
| lat      | 0.4991029 | 1  | 0.4798946  |
| long     | 7.8106444 | 1  | 0.0051939  |
| lat:long | 3.3506806 | 1  | 0.0671772  |

Table 11: In(3R)C

|          | LR Chisq  | Df | Pr(>Chisq) |
|----------|-----------|----|------------|
| lat      | 42.334944 | 1  | 0.0000000  |
| long     | 7.386054  | 1  | 0.0065732  |
| lat:long | 6.995001  | 1  | 0.0081738  |

Table 12: In(3R)C

|          | LR Chisq  | Df | Pr(>Chisq) |
|----------|-----------|----|------------|
| lat      | 0.1133971 | 1  | 0.7363092  |
| long     | 0.9755962 | 1  | 0.3232885  |
| lat:long | 1.3212551 | 1  | 0.2503669  |

Table 13: In(3R)Mo

|          | LR Chisq | Df | Pr(>Chisq) |
|----------|----------|----|------------|
| lat      | 2.410077 | 1  | 0.1205565  |
| long     | 2.797739 | 1  | 0.0943974  |
| lat:long | 2.339673 | 1  | 0.1261160  |

Table 14: In(3L)P

|          | LR Chisq | Df | Pr(>Chisq) |
|----------|----------|----|------------|
| lat      | 79.27926 | 1  | 0.0e+00    |
| long     | 22.08933 | 1  | 2.6e-06    |
| lat:long | 27.83794 | 1  | 1.0e-07    |