|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Table S3. Correlations between elliptic Fourier coefficients (variables) and principal components (factors). | | | | | | | | | | | | | | | | | | |  | |
|  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |
|  | | F1 | | F2 | | F3 | | F4 | | F5 | | F6 | | F7 | | F8 | | F9 | | F10 | |
| Var1 | | -0.539 | | 0.736 | | 0.036 | | -0.099 | | 0.237 | | -0.289 | | 0.062 | | 0.020 | | 0.004 | | -0.012 | |
| Var2 | | -0.105 | | 0.557 | | 0.380 | | -0.339 | | -0.441 | | 0.308 | | 0.055 | | -0.119 | | -0.284 | | -0.031 | |
| Var3 | | 0.103 | | -0.276 | | 0.917 | | 0.143 | | 0.151 | | -0.148 | | -0.005 | | -0.019 | | 0.032 | | -0.049 | |
| Var4 | | 0.896 | | 0.328 | | -0.009 | | 0.232 | | -0.120 | | -0.141 | | 0.010 | | 0.003 | | 0.004 | | 0.009 | |
| Var5 | | 0.650 | | 0.174 | | 0.009 | | -0.470 | | 0.525 | | 0.101 | | -0.117 | | -0.044 | | -0.039 | | 0.041 | |
| Var6 | | -0.059 | | 0.438 | | 0.222 | | -0.317 | | -0.251 | | 0.221 | | 0.012 | | 0.372 | | 0.577 | | -0.109 | |
| Var7 | | 0.066 | | -0.173 | | 0.047 | | 0.158 | | 0.072 | | -0.065 | | -0.052 | | 0.776 | | -0.494 | | 0.088 | |
| Var8 | | -0.104 | | 0.367 | | 0.027 | | 0.603 | | 0.431 | | 0.525 | | 0.025 | | 0.016 | | -0.028 | | -0.153 | |
| Var9 | | -0.804 | | 0.326 | | 0.047 | | 0.094 | | 0.184 | | -0.288 | | -0.165 | | -0.014 | | -0.014 | | 0.072 | |
| Var10 | | -0.098 | | 0.445 | | 0.621 | | -0.271 | | -0.263 | | 0.192 | | -0.014 | | -0.059 | | 0.002 | | 0.094 | |
| Var11 | | 0.088 | | -0.210 | | 0.128 | | 0.104 | | 0.203 | | -0.146 | | -0.175 | | 0.130 | | -0.050 | | 0.013 | |
| Var12 | | -0.086 | | -0.069 | | 0.018 | | -0.071 | | 0.279 | | -0.071 | | 0.906 | | 0.055 | | -0.028 | | 0.121 | |
| Var13 | | 0.697 | | -0.161 | | 0.004 | | -0.550 | | 0.296 | | -0.046 | | -0.050 | | 0.037 | | -0.023 | | -0.026 | |
| Var14 | | -0.037 | | 0.295 | | 0.190 | | -0.194 | | -0.125 | | 0.209 | | -0.044 | | 0.554 | | 0.260 | | 0.201 | |
| Var15 | | 0.040 | | 0.084 | | 0.008 | | -0.069 | | 0.040 | | -0.141 | | -0.070 | | 0.243 | | -0.207 | | 0.021 | |
| Var16 | | 0.310 | | 0.077 | | 0.103 | | 0.234 | | 0.321 | | 0.373 | | -0.062 | | -0.117 | | 0.129 | | 0.598 | |
| Var17 | | -0.754 | | 0.204 | | 0.022 | | 0.222 | | -0.081 | | -0.208 | | -0.412 | | 0.026 | | -0.087 | | 0.058 | |
| Var18 | | -0.062 | | 0.183 | | 0.598 | | -0.203 | | -0.242 | | 0.252 | | -0.015 | | -0.069 | | -0.108 | | 0.237 | |
| Var19 | | 0.023 | | -0.009 | | -0.182 | | -0.059 | | 0.166 | | -0.187 | | -0.096 | | 0.130 | | 0.057 | | -0.097 | |
| Var20 | | -0.476 | | -0.009 | | 0.009 | | 0.199 | | -0.135 | | -0.162 | | 0.357 | | -0.033 | | -0.008 | | 0.151 | |
| Var21 | | 0.618 | | -0.201 | | -0.034 | | -0.598 | | 0.111 | | -0.010 | | 0.037 | | 0.109 | | -0.109 | | -0.298 | |
| Var22 | | 0.002 | | 0.063 | | 0.190 | | -0.116 | | -0.155 | | 0.287 | | 0.024 | | 0.600 | | 0.106 | | 0.198 | |
| Var23 | | -0.045 | | 0.201 | | 0.006 | | 0.028 | | 0.069 | | -0.206 | | -0.070 | | -0.102 | | -0.146 | | -0.060 | |
| Var24 | | 0.516 | | -0.067 | | 0.045 | | -0.230 | | 0.214 | | 0.238 | | -0.079 | | -0.100 | | 0.126 | | 0.413 | |
| Var25 | | -0.641 | | 0.181 | | 0.042 | | 0.178 | | -0.012 | | -0.083 | | -0.508 | | 0.002 | | -0.016 | | 0.088 | |
| Var26 | | -0.037 | | -0.041 | | 0.521 | | -0.061 | | -0.262 | | 0.223 | | 0.078 | | 0.044 | | -0.080 | | 0.190 | |
| Var27 | | 0.064 | | 0.041 | | -0.254 | | 0.048 | | 0.118 | | -0.096 | | -0.081 | | 0.072 | | 0.024 | | -0.080 | |
| Var28 | | -0.541 | | 0.064 | | -0.002 | | 0.008 | | -0.178 | | -0.118 | | -0.041 | | -0.054 | | 0.012 | | 0.094 | |
| Var29 | | 0.494 | | -0.178 | | -0.077 | | -0.551 | | 0.068 | | -0.097 | | 0.068 | | 0.092 | | -0.035 | | -0.398 | |
| Var30 | | 0.049 | | -0.109 | | 0.179 | | 0.055 | | -0.090 | | 0.291 | | 0.033 | | 0.534 | | -0.027 | | 0.176 | |
| Var31 | | -0.058 | | 0.096 | | -0.037 | | 0.000 | | -0.051 | | -0.030 | | 0.012 | | -0.216 | | -0.101 | | -0.047 | |
| Var32 | | 0.363 | | -0.038 | | 0.007 | | -0.478 | | 0.127 | | 0.094 | | -0.082 | | 0.013 | | 0.066 | | 0.088 | |
| Var33 | | -0.410 | | 0.287 | | 0.067 | | 0.091 | | 0.007 | | 0.019 | | -0.512 | | 0.034 | | 0.036 | | 0.146 | |
| Var34 | | 0.045 | | -0.155 | | 0.460 | | 0.079 | | -0.090 | | 0.060 | | -0.002 | | 0.040 | | -0.057 | | 0.163 | |
| Var35 | | 0.019 | | -0.044 | | -0.403 | | -0.010 | | 0.003 | | -0.019 | | 0.036 | | 0.118 | | 0.135 | | -0.132 | |
| Var36 | | -0.342 | | 0.136 | | 0.033 | | -0.009 | | -0.174 | | -0.068 | | -0.200 | | -0.121 | | 0.030 | | 0.033 | |
| Var37 | | 0.307 | | 0.076 | | -0.095 | | -0.490 | | -0.120 | | -0.037 | | 0.100 | | 0.116 | | -0.070 | | -0.464 | |
| Var38 | | 0.013 | | -0.078 | | 0.163 | | 0.047 | | -0.041 | | 0.228 | | -0.023 | | 0.436 | | -0.167 | | 0.083 | |
| Var39 | | -0.075 | | -0.076 | | -0.151 | | 0.085 | | 0.007 | | 0.028 | | 0.074 | | -0.316 | | -0.042 | | -0.039 | |
| Var40 | | 0.264 | | 0.005 | | -0.015 | | -0.440 | | 0.106 | | -0.084 | | 0.017 | | 0.058 | | -0.045 | | -0.159 | |
| Var41 | | -0.245 | | 0.335 | | 0.065 | | -0.037 | | 0.032 | | 0.138 | | -0.393 | | 0.093 | | 0.061 | | 0.079 | |
| Var42 | | 0.015 | | 0.045 | | 0.326 | | -0.015 | | -0.128 | | -0.083 | | -0.048 | | 0.120 | | -0.010 | | 0.049 | |
| Var43 | | 0.041 | | -0.217 | | -0.276 | | -0.026 | | 0.033 | | 0.035 | | -0.009 | | -0.027 | | 0.037 | | -0.060 | |
| Var44 | | -0.175 | | 0.116 | | 0.066 | | 0.063 | | 0.021 | | -0.115 | | -0.386 | | 0.032 | | 0.017 | | 0.055 | |
| Var45 | | 0.153 | | 0.009 | | -0.101 | | -0.292 | | -0.054 | | -0.084 | | 0.041 | | 0.103 | | -0.061 | | -0.440 | |
| Var46 | | -0.060 | | 0.169 | | 0.145 | | -0.079 | | -0.033 | | 0.189 | | -0.043 | | 0.315 | | -0.210 | | -0.055 | |
| Var47 | | 0.031 | | -0.105 | | -0.095 | | 0.032 | | 0.033 | | -0.042 | | 0.042 | | -0.305 | | 0.072 | | -0.019 | |
| Var48 | | 0.216 | | -0.027 | | -0.070 | | -0.237 | | 0.075 | | -0.187 | | 0.117 | | 0.143 | | -0.090 | | -0.176 | |
| Var49 | | -0.048 | | 0.080 | | 0.037 | | 0.030 | | 0.203 | | 0.083 | | -0.310 | | 0.001 | | -0.015 | | 0.092 | |
| Var50 | | 0.021 | | 0.154 | | 0.210 | | -0.083 | | -0.049 | | -0.134 | | -0.116 | | 0.148 | | 0.003 | | -0.042 | |
| Var51 | | -0.022 | | -0.039 | | -0.234 | | -0.044 | | 0.092 | | 0.012 | | 0.053 | | -0.042 | | -0.004 | | -0.073 | |
| Var52 | | 0.010 | | -0.004 | | 0.077 | | -0.018 | | 0.275 | | -0.017 | | -0.283 | | 0.048 | | -0.023 | | -0.034 | |
| Var53 | | 0.108 | | -0.126 | | -0.118 | | -0.104 | | 0.046 | | -0.152 | | -0.021 | | 0.028 | | -0.192 | | -0.369 | |
| Var54 | | -0.020 | | 0.043 | | 0.122 | | -0.068 | | 0.055 | | 0.107 | | -0.062 | | 0.185 | | -0.225 | | -0.059 | |
| Var55 | | 0.075 | | 0.048 | | -0.123 | | -0.102 | | 0.095 | | -0.103 | | -0.007 | | -0.147 | | 0.171 | | -0.002 | |
| Var56 | | 0.049 | | -0.046 | | -0.036 | | -0.145 | | 0.081 | | -0.104 | | 0.040 | | 0.042 | | -0.201 | | -0.293 | |
| Var57 | | 0.030 | | 0.001 | | 0.023 | | 0.035 | | 0.144 | | 0.015 | | -0.200 | | 0.012 | | -0.083 | | 0.032 | |
| Var58 | | 0.053 | | -0.112 | | 0.156 | | 0.003 | | -0.012 | | -0.163 | | -0.111 | | 0.128 | | -0.053 | | -0.002 | |
| Var59 | | 0.009 | | 0.134 | | -0.056 | | -0.064 | | 0.013 | | -0.058 | | 0.059 | | -0.165 | | -0.094 | | 0.066 | |
| Var60 | | 0.094 | | 0.087 | | -0.099 | | 0.008 | | 0.185 | | 0.073 | | -0.244 | | 0.104 | | -0.072 | | -0.018 | |
| Var61 | | 0.061 | | -0.033 | | -0.116 | | -0.103 | | 0.064 | | -0.170 | | -0.076 | | 0.133 | | -0.143 | | -0.302 | |
| Var62 | | 0.019 | | -0.099 | | 0.118 | | -0.043 | | 0.005 | | 0.107 | | -0.035 | | 0.139 | | -0.209 | | -0.032 | |
| Var63 | | 0.030 | | 0.026 | | -0.061 | | 0.026 | | 0.052 | | -0.075 | | 0.032 | | -0.073 | | 0.054 | | 0.005 | |
| Var64 | | 0.041 | | 0.017 | | -0.070 | | -0.006 | | 0.040 | | -0.114 | | 0.003 | | 0.013 | | -0.040 | | -0.330 | |
| Var65 | | -0.008 | | 0.139 | | 0.082 | | -0.050 | | 0.081 | | -0.064 | | -0.126 | | 0.019 | | -0.007 | | -0.035 | |
| Var66 | | 0.028 | | -0.011 | | 0.158 | | -0.048 | | -0.105 | | -0.018 | | -0.007 | | 0.171 | | -0.120 | | 0.041 | |
| Var67 | | 0.003 | | -0.038 | | -0.072 | | 0.037 | | 0.080 | | -0.098 | | -0.008 | | -0.051 | | -0.068 | | 0.055 | |
| Var68 | | 0.041 | | 0.035 | | -0.089 | | -0.026 | | 0.136 | | 0.105 | | -0.068 | | -0.059 | | -0.035 | | -0.022 | |
| Var69 | | 0.046 | | 0.058 | | -0.073 | | -0.115 | | 0.097 | | -0.126 | | -0.152 | | 0.130 | | -0.093 | | -0.208 | |
| Var70 | | 0.036 | | 0.035 | | 0.169 | | -0.052 | | -0.040 | | 0.129 | | 0.037 | | 0.157 | | -0.036 | | -0.024 | |
| Var71 | | 0.015 | | -0.044 | | -0.038 | | 0.059 | | 0.080 | | -0.063 | | 0.077 | | -0.153 | | -0.119 | | -0.012 | |
| Var72 | | 0.015 | | -0.078 | | 0.012 | | -0.030 | | 0.074 | | 0.022 | | 0.028 | | 0.021 | | 0.007 | | -0.061 | |
| Var73 | | 0.016 | | 0.044 | | 0.115 | | -0.070 | | -0.021 | | -0.074 | | -0.151 | | 0.039 | | -0.033 | | -0.019 | |
| Var74 | | -0.034 | | 0.116 | | 0.136 | | -0.087 | | -0.059 | | 0.031 | | -0.008 | | 0.116 | | -0.079 | | 0.076 | |
| Var75 | | -0.065 | | 0.048 | | -0.015 | | -0.030 | | -0.020 | | -0.066 | | -0.001 | | -0.200 | | -0.128 | | 0.055 | |
| Var76 | | 0.048 | | -0.055 | | -0.040 | | -0.020 | | 0.041 | | 0.089 | | 0.017 | | 0.012 | | 0.012 | | -0.061 | |