**Developing a multi-Kinect-system for monitoring in dairy cows: object recognition and surface analysis using wavelets –**

**Supplementary Table S2**

J. Salau1,3, J.H. Haas1, G.Thaller1, M. Leisen2, W. Junge1

1 *Institute of Animal Breeding and Husbandry, Kiel University, Olshausenstraße 40, 24098 Kiel, Germany*

2 *Rinderzucht Schleswig Holstein eG, Rendsburger Str. 178. 24537 Neumünster, Germany*

3 *TiDa Tier und Daten GmbH, Bosseer Str. 4c, 24259 Westensee/Brux, Germany*

Corresponding author: Jennifer Salau, e-mail: [jsalau@tierzucht.uni-kiel.de](mailto:jsalau@tierzucht.uni-kiel.de)

***Supplementary Table S2*** *Descriptive statistics for the averaged absolute values of horizontal, vertical, diagonal, and summed details. Details were calculated from transformations with the haar and the bior1.5 wavelet at second decomposition level.The differences in cows’ and persons’ surfaces were analysed[[1]](#footnote-1).*

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Horizontal details | | | Vertical details | | Diagonal details | | | Sum of details | |
| haar | sequences of sideview camera | | | | | | | | | |
|  | cow | person | cow | | person | cow | person | cow | | person |
| N | 84 | 79 | 84 | | 79 | 84 | 79 | 84 | | 79 |
| min | 0.37 | 0.23 | 0.52 | | 0.30 | 0.23 | 0.15 | 0.69 | | 0.42 |
| max | 4.93 | 3.13 | 5.17 | | 4.82 | 2.75 | 1.93 | 7.56 | | 5.85 |
| mean | 2.55 | 1.64 | 2.89 | | 2.62 | 1.39 | 1.07 | 4.19 | | 3.30 |
| median | 2.73 | 1.75 | 3.06 | | 2.83 | 1.50 | 1.13 | 4.43 | | 3.60 |
| std | 0.95 | 0.81 | 0.98 | | 1.23 | 0.49 | 0.51 | 1.47 | | 1.56 |
| p | <0.001 | | N.S. | | | <0.001 | | <0.001 | | |
| η2 | 0.2 | | - | | | 0.08 | | 0.07 | | |
| bior1.5 | sequences of sideview camera | | | | | | | | | |
| min | 0.34 | 0.02 | 0.52 | | 0.07 | 0.23 | 0.02 | 0.69 | | 0.08 |
| max | 7.56 | 4.56 | 8.13 | | 7.36 | 4.71 | 3.47 | 11.21 | | 8.47 |
| mean | 2.87 | 1.33 | 3.54 | | 2.18 | 1.72 | 0.93 | 5.04 | | 2.77 |
| median | 2.88 | 1.08 | 3.53 | | 1.64 | 1.66 | 0.74 | 5.10 | | 2.03 |
| std | 1.23 | 1.07 | 1.26 | | 1.74 | 0.72 | 0.77 | 1.82 | | 2.16 |
| p | <0.001 | | <0.001 | | | <0.001 | | <0.001 | | |
| η2 | 0.31 | | 0.15 | | | 0.21 | | 0.23 | | |
| haar | sequences of topview camera | | | | | | | | | |
|  | cow | person | cow | | person | cow | person | cow | | person |
| N | 143 | 43 | 143 | | 43 | 143 | 43 | 143 | | 43 |
| min | 0.37 | 0.94 | 0.41 | | 0.98 | 0.16 | 0.58 | 0.61 | | 1.48 |
| max | 8.21 | 5.09 | 7.10 | | 5.21 | 4.03 | 2.71 | 11.63 | | 7.71 |
| mean | 4.43 | 3.30 | 4.08 | | 3.37 | 2.18 | 1.80 | 6.51 | | 5.13 |
| median | 4.17 | 3.37 | 3.92 | | 3.32 | 2.13 | 1.84 | 6.29 | | 5.22 |
| std | 2.00 | 0.97 | 1.76 | | 0.94 | 0.96 | 0.49 | 2.88 | | 1.45 |
| p | <0.01 | | <0.04 | | | <0.04 | | <0.01 | | |
| η2 | 0.05 | | 0.02 | | | 0.02 | | 0.03 | | |
| bior1.5 | sequences of topview camera | | | | | | | | | |
| min | 0.37 | 0.05 | 0.30 | | 0.02 | 0.16 | 0.02 | 0.61 | | 0.06 |
| max | 12.65 | 15.68 | 10.70 | | 15.56 | 6.72 | 9.02 | 16.98 | | 22.97 |
| mean | 5.14 | 5.93 | 4.66 | | 5.91 | 2.68 | 3.28 | 7.61 | | 9.22 |
| median | 4.93 | 5.87 | 4.36 | | 5.88 | 2.53 | 3.22 | 7.10 | | 9.33 |
| std | 2.56 | 3.01 | 2.26 | | 2.80 | 1.35 | 1.67 | 3.65 | | 4.39 |
| p | <0.001 | | <0.001 | | | <0.001 | | <0.001 | | |
| η2 | 0.02 | | 0.06 | | | 0.04 | | 0.04 | | |

1. N.S. indicates no significant differences in medians. p and η² denote Wilcoxon-rank-sum-tests’ significance levels and effect sizes. [↑](#footnote-ref-1)