

5. Discussion

It is clear, that the subject moved during the scanning procedure. The belly likely moved because the subject was breathing. The calves likely moved because the subject had to balance itself on the moving turntable. The “movement” of the hair is very likely to be a result of difficulties when capturing hair with 3D-scanning and can be ignored. The arms moved the most during the scan. This is also at least partially likely to be caused by balancing.

The movement caused differences in measurement between the 4D-scan and the turntable-scan. As no ground truth was established, it is difficult to judge which measurement is closer to reality. Further measurements should include a manually taken measure to verify the scanning results. If the data is correct, the body measurements obtained from the turntable scan can differ from the measurements of the measurements obtained from the 4D scan in orders of magnitude up to 1 cm. For ordinary made-to-measure garments and virtual fitting solutions alike, this order of magnitude can be considered acceptable as a tradeoff between price (of the scan) and quality. However, it is difficult to generalize these results. Further scans with more subjects need to be carried out to get a better understanding of how the subjects behave during the scan and how their movement affects the turntable scan.

Disclosure

Dzmitry Komar is the co-founder of Scaneca GmbH, the manufacturer of the 3D-turntable-scanner. He has financial interest in the results of the analysis. He was involved in preparing the experiment and the analysis, but did not directly take part in the evaluation of the data.

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