

Standardized Publication List

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1. Workspace Analysis

1. A general analytic approach for Santos upper extremity workspace

Authors: Jingzhou Yang, Tariq Sinokrot, Karim Abdel-Malek

Citation / Document Type: Computers & Industrial Engineering, 54 (2008) 242–258

2. Workspace zone differentiation and visualization for virtual humans

Authors: J. Yang, T. Sinokrot, K. Abdel-Malek, S. Beck, K. Nebel

Citation / Document Type: Ergonomics, 51:3 (2008) 395-413

3. Workspace boundaries of serial manipulators using manifold stratification

Authors: Karim Abdel-Malek, Jingzhou Yang

Citation / Document Type: The International Journal of Advanced Manufacturing Technology, 28 (2006) 1211–1229

4. Workspace Visualization and Analysis for Virtual Humans

Authors: Tariq Zeyad Abdel Hamed Sinokrot

Citation / Document Type: Master's Thesis, University of Iowa, 2005

5. Workspace Analysis and Visualization for Santos' Upper Extremity

Authors: Tariq Sinokrot, Jingzhou Yang, Rebecca Fetter, Karim Abdel-Malek

Citation / Document Type: SAE Technical Paper 2005-01-2739, 2005

6. Towards understanding the workspace of human limbs

Authors: Karim Abdel-Malek, Jingzhou Yang, Richard Brand, Emad Tanbour

Citation / Document Type: Ergonomics, 47:13 (2004) 1386-1405

7. Towards Understanding the Workspace of the Upper Extremities

Authors: Karim Abdel-Malek, Jingzhou Yang, Richard Brand, Emad Tanbour

Citation / Document Type: SAE Technical Paper 2001-01-2095, 2001

8. A mathematical method for ergonomic-based design: placement

Authors: Karim Abdel-Malek, Wei Yu, Jingzhou Yang, Kyle Nebel

Citation / Document Type: International Journal of Industrial Ergonomics, 34:5 (2004) 375-394

9. Layout Design using an Optimization-Based Human Energy Consumption Formulation

Authors: Joo H. Kim, Karim Abdel-Malek, Zan Mi, Kyle Nebel

Citation / Document Type: SAE Technical Paper 2004-01-2175, 2004

10. Development of a Zone Differentiation Tool for Visualization of Postural Comfort

Authors: Jingzhou Yang, Uday Verma, Rajeev Penmatsa, Timothy Marler, Steve Beck, Salam Rahmatalla, Karim Abdel-Malek, Chad Harrison

Citation / Document Type: SAE Technical Paper 2008-01-0772, 2008

11. On the Workspace of Human Limbs

Authors: K. Abdel-Malek, J. Yang, R. Brand, E. Tanbour

Citation / Document Type: Proceedings of the 2004 Digital Human Modeling for Design and Engineering Conference, 2004

2. Vision

1. Studying Visibility as a Constraint and as an Objective for Posture Prediction

Authors: Brian Lewis Smith, Tim Marler, and Karim Abdel-Malek

Citation / Document Type: SAE Technical Paper 2008-01-1875 (2008)

2. Vision Performance Measures for Optimization-Based Posture Prediction

Authors: Timothy Marler, Kimberly Farrell, Joo Kim, Salam Rahmatalla, and Karim Abdel-Malek

Citation / Document Type: SAE Technical Paper 2006-01-2334 (2006)

3. Vision Study - Smith 2008

Authors: Brian Lewis Smith, Tim Marler, and Karim Abdel-Malek

Citation / Document Type: 2008 Digital Human Modeling for Design and Engineering Conference (2008)

4. 06DHM-54 Vision Performance (1st Draft)

Authors: Timothy Marler, Kimberly Farrell, Joo Kim, Salam Rahmatalla, and Karim Abdel-Malek

Citation / Document Type: VSR Technical Report / 1st Draft (2006)

5. 06DHM-54-FINAL

Authors: Timothy Marler, Kimberly Farrell, Joo Kim, Salam Rahmatalla, and Karim Abdel-Malek

Citation / Document Type: Final Manuscript for SAE Technical Paper 2006-01-2334 (2006)

3. Validation

1. A Validation Protocol for Predictive Human Locomotion

Authors: Salam Rahmatalla, Yujiang Xiang, Rosalind Smith, Jinzheng Li, John Meusch, Rajan Bhatt, Colby Swan, Jasbir S. Arora, Karim Abdel-Malek

Citation / Document Type: International Journal of Vehicle Design, 2008

2. Validation of Santos Biomechanics

Authors: Salam Rahmatalla, Yujiang Xiang, Rosalind Smith, John Meusch, Jinzheng Li, Rajankumar Bhatt, Karim Abdel-Malek

Citation / Document Type: Proceedings of the ASME 2009 Summer Bioengineering Conference, 2009

3. Validation of Jumping from a Box for the Virtual Human Model Santos™

Authors: Steven Ewart, Jonathan DeShaw, John Michael, Salam Rahmatalla

Citation / Document Type: Technical Report, University of Iowa, 2009

4. Validation of Stand to Prone for the Virtual Human Model Santos™

Authors: Salam Rahmatalla, Steven Ewart, John Michael, Madeline Tierney

Citation / Document Type: Technical Report, University of Iowa, 2008

5. Validation of Prone to Stand for the Virtual Human Model Santos™

Authors: Salam Rahmatalla, Steven Ewart, John Michael, Madeline Tierney

Citation / Document Type: Technical Report, University of Iowa, 2008

6. Validation of Ladder Climbing for the Virtual Human Model Santos™

Authors: Salam Rahmatalla, John Michael, Steven Ewart, Madeline Tierney, Jonathan DeShaw

Citation / Document Type: Technical Report, University of Iowa, 2008

7. Validation of Lower-Body Posture Prediction for the Virtual Human Model Santos™

Authors: Salam Rahmatalla, Yujiang Xiang, Rosalind Smith, John Meusch, Jinzheng Li, Tim Marler, Brian Smith

Citation / Document Type: SAE Technical Paper 2009-01-2284, 2009

8. Validation of Vertical Jumping for the Virtual Human Model Santos™

Authors: Salam Rahmatalla, Steven Ewart, John Michael, Jonathan DeShaw

Citation / Document Type: Technical Report, University of Iowa, 2009

9. Validation Methodology Development for Predicted Posture

Authors: Timothy Marler, Jingzhou Yang, Salam Rahmatalla, Karim Abdel-Malek, Chad Harrison

Citation / Document Type: Technical Report, University of Iowa, 2006

10. Validation of Predicted Posture for the Virtual Human Santos™

Authors: Jingzhou Yang, Salam Rahmatalla, Tim Marler, Karim Abdel-Malek, Chad Harrison

Citation / Document Type: SAE Technical Paper 2005-01-2682, 2005

11. A Validation Framework for Predictive Human Models

Authors: Salam Rahmatalla, Yujiang Xiang, Rosalind Smith, John Meusch, Rajankumar Bhatt

Citation / Document Type: Technical Report, University of Iowa, 2008

12. Multiple User Defined End-Effectors with Shared Memory Communication for Posture Prediction

Authors: Brent Rochambeau, Timothy Marler, Anith Mathai, Karim Abdel-Malek

Citation / Document Type: SAE Technical Paper 2008-01-1922, 2008

13. Modeling Ability to Perform Common Soldier Tasks Based on the Army Combat Fitness Test Deadlift

Authors: Laura A. Frey-Law, Rajan Bhatt, Russell Schneider, Guillermo Laguna Mosqueda, Marco Tena Salais, Landon Evans, Karim Abdel-Malek

Citation / Document Type: 7th International Digital Human Modeling Symposium (DHM 2022)

14. Multi-objective optimization-based method for kinematic posture prediction: development and validation

Authors: Jingzhou (James) Yang, Tim Marler, Salam Rahmatalla, Karim Abdel-Malek

Citation / Document Type: International Journal of Vehicle Design, 45:1-2 (2007) 226-243

15. Validation - Yang 2007.pdf

Authors: Jingzhou Yang, Salam Rahmatalla, Tim Marler, Karim Abdel-Malek

Citation / Document Type: 2007 Digital Human Modeling for Design and Engineering Conference, 2007

16. Validation - Marler 2007.pdf

Authors: Timothy Marler, Salam Rahmatalla, Jingzhou Yang, Karim Abdel-Malek

Citation / Document Type: SAE Technical Paper 2007-01-2495, 2007

4. Thesis and Dissertations

1. Optimization-Based Dynamic Human Motion Prediction

Authors: Emily Nicole Horn

Citation / Document Type: Master's Thesis, University of Iowa, 2009

2. Workspace Visualization and Analysis for Virtual Humans

Authors: Tariq Zeyad Abdel Hamed Sinokrot

Citation / Document Type: Master's Thesis, University of Iowa, 2005

3. Dynamics and Motion Planning of Redundant Manipulators Using Optimization, with Applications to Human Motion

Authors: Joo Hyun Kim

Citation / Document Type: Doctoral Dissertation, University of Iowa, 2006

4. A Geodesics-Based Model for Collision Avoidance Path Prediction

Authors: Jason Charles Olmstead Muhs

Citation / Document Type: Master's Thesis, University of Iowa, 2005

5. A Study of Alternative Formulations for Optimization of Structural and Mechanical Systems Subjected to Static and Dynamic Loads

Authors: Qian Wang

Citation / Document Type: Doctoral Dissertation, University of Iowa, 2004

6. Design, Actuation, and Control of a Complex Hand Mechanism

Authors: Jason Dean Potratz

Citation / Document Type: Master's Thesis, University of Iowa, 2003

7. A Mathematical and Computational Multiscale Clothing Modeling Framework

Authors: Xiaolin Man

Citation / Document Type: Doctoral Dissertation, University of Iowa, 2006

8. Virtual Human Hand: Grasping Strategy and Simulation

Authors: Esteban Peña Pitarch

Citation / Document Type: Doctoral Dissertation, Polytechnic University of Catalonia, 2007

9. Towards Physiological Modeling in Virtual Humans

Authors: Anith Jacob Mathai

Citation / Document Type: Master's Thesis, University of Iowa, 2005

10. Muscle Force and Activation Prediction for the Shoulder Girdle and Upper Extremity

Authors: Amos Patrick

Citation / Document Type: Doctoral Dissertation, University of Iowa, 2005

11. Digital Human Modeling Capabilities for Task-Based Survivability

Authors: Jacob Todd Kersten

Citation / Document Type: Master's Thesis, University of Iowa, 2011

12. Digital Human Modeling for Optimal Body Armor Design

Authors: Nic Andrew Capdevila

Citation / Document Type: Master's Thesis, University of Iowa, 2011

5. Thermal - Thermodynamics

1. Transient thermal model of the human body-synopsis.pdf

Authors: Anith Mathai (Compiled under Karim A. Malek)

Citation / Document Type: University of Iowa Technical Report (2009)

2. Substrate Depletion_final.pdf

Authors: Samantha Wagner, Anith Mathai (under Karim A. Malek)

Citation / Document Type: VSR Research Presentation (2014)

3. Energy Adjustment in ETOWL.pdf

Authors: Karim A. Malek

Citation / Document Type: GruntSim / VSR Technical Document

4. Physiology in Santos-Writeup_updated.pdf

Authors: Karim A. Malek

Citation / Document Type: VSR Program Technical Writeup

5. Critical Power Model.pdf

Authors: Karim A. Malek

Citation / Document Type: VSR Physiology Modelin

6. Survivability

1. iHuman SANTOS- General List of capabilities-1 April 2024

Authors: Karim A. Malek

Citation / Document Type: Technical Specification

2. Santos survivability mobility and PPE

Authors: Karim A. Malek

Citation / Document Type: VSR Research Presentation

3. Task-Based Survivability Analysis and Injury Reduction

Authors: Karim A. Malek

Citation / Document Type: VSR Technical Report

4. Why SANTOS the Human Digital Twin? 1 April 2024

Authors: Karim A. Malek

Citation / Document Type: Technical Write-up

5. Santos the Virtual Soldier: Predicting Human Behavior

Authors: Karim A. Malek, Rajan Bhatt, et al.

Citation / Document Type: DHM and Posturography (2019)

6. ONR Head and Neck Final Report

Authors: Karim A. Malek

Citation / Document Type: Final Project Report to ONR

7. Clients and Applications - Santos Tech

Authors: Karim A. Malek

Citation / Document Type: VSR Applications Overview

8. Survivability-PPE-Armor

Authors: Karim A. Malek

Citation / Document Type: Folder/Placeholder Document

9. Digital Human Modeling Capabilities for Task-Based Survivability

Authors: Jacob Todd Kersten

Citation / Document Type: Master's Thesis

7. Strength - Fatigue - Muscles

1. Human Fatigue Modeling for Digital Humans

Authors: Anith Mathai, Tim Marler, and Karim Abdel-Malek

Citation / Document Type: SAE Technical Paper 2004-01-2144 (2004)

2. A New Approach to Modeling Muscle Fatigue in Digital Humans

Authors: Joo H. Kim, Jingzhou Yang, and Karim Abdel-Malek

Citation / Document Type: SAE Technical Paper 2004-01-2140 (2004)

3. Towards Physiological Modeling in Virtual Humans

Authors: Anith Jacob Mathai

Citation / Document Type: Master's Thesis, The University of Iowa (2005)

4. Knee and Elbow 3D Strength Surfaces: Peak Torque-Angle-Velocity Relationships

Authors: Laura A. Frey-Law, Andrea Laake, Keith G. Avin, Jesse Heitsman, Tim Marler, and Karim Abdel-Malek

Citation / Document Type: Journal of Applied Biomechanics, 28(6), 726-737 (2012)

5. Integrating Musculoskeletal Modeling with Optimization-Based Posture Prediction

Authors: Amos Patrick and Karim Abdel-Malek

Citation / Document Type: SAE Technical Paper 2006-01-2357 (2006)

6. Empirical Strength Models for the Santos Virtual Human

Authors: Laura A. Frey-Law and Keith G. Avin

Citation / Document Type: VSR Research Summary Report (2010)

7. A New Approach to Modeling Human Strength for Digital Humans

Authors: Jingzhou Yang, Joo H. Kim, Karim Abdel-Malek, Tim Marler, and Jasbir Arora

Citation / Document Type: 2004 Digital Human Modeling for Design and Engineering Conference (2004)

8. Muscle Force and Activation Prediction for the Shoulder Girdle and Upper Extremity

Authors: Amos Patrick

Citation / Document Type: PhD Dissertation, The University of Iowa (2005)

9. Predicting Strength for the Santos Virtual Soldier

Authors: Laura A. Frey-Law

Citation / Document Type: VSR Technical Briefing (2008)

10. Biomechanical Strength Assessment of the Upper Extremity

Authors: Karim Abdel-Malek, Jasbir Arora, and Tim Marler

Citation / Document Type: VSR Research Publication (2007)

8. Predictive Dynamics

1. Predictive dynamics: an optimization-based novel approach for human motion simulation

Authors: Y. Xiang, H.J. Chung, J.H. Kim, R. Bhatt, S. Rahmatalla, J. Yang, T. Marler, J.S. Arora, K. Abdel-Malek

Citation / Document Type: Structural and Multidisciplinary Optimization (2010)

2. Optimization-based dynamic human walking prediction: one step formulation

Authors: Y. Xiang, J.S. Arora, S. Rahmatalla, K. Abdel-Malek

Citation / Document Type: International Journal for Numerical Methods in Engineering (2009)

3. Optimization-based motion prediction of mechanical systems: sensitivity analysis

Authors: Y. Xiang, J.S. Arora, K. Abdel-Malek

Citation / Document Type: Structural and Multidisciplinary Optimization (2009)

4. Dynamic motion planning of 3D human locomotion using gradient-based optimization

Authors: J.H. Kim, Q. Wang, S. Rahmatalla, C.C. Swan, J.S. Arora, K. Abdel-Malek

Citation / Document Type: Journal of Biomechanical Engineering (2008)

5. Alternative formulations for optimization-based human gait planning

Authors: Q. Wang, Y. Xiang, J.S. Arora, K. Abdel-Malek

Citation / Document Type: 48th AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics and Materials Conference (2007)

6. Optimization-based human motion prediction and validation

Authors: Y. Xiang, J.S. Arora, K. Abdel-Malek

Citation / Document Type: SAE Technical Paper 2007-01-2494 (2007)

7. A general approach to the predictive dynamics of human motion

Authors: J.S. Arora, K. Abdel-Malek, J. Yang, T. Marler, J.H. Kim, R. Bhatt

Citation / Document Type: Digital Human Modeling for Design and Engineering Conference (2005)

8. Human Motion Simulation (Book Chapter 3: Posture Prediction and Optimization)

Authors: K. Abdel-Malek

Citation / Document Type: Human Motion Simulation, Elsevier (2013)

9. Predictive dynamics for human motion simulation: A review

Authors: K. Abdel-Malek, J.S. Arora

Citation / Document Type: VSR Technical White Paper / Manuscript

10. Sensitivity analysis for human motion prediction

Authors: Y. Xiang, J.S. Arora, K. Abdel-Malek

Citation / Document Type: VSR Research Report (2008)

11. Predictive Dynamics: Throwing Motion

Authors: K. Abdel-Malek, et al.

Citation / Document Type: VSR Technical Briefing

12. Predictive Dynamics: Running and Jumping

Authors: Y. Xiang, R. Bhatt, S. Rahmatalla

Citation / Document Type: VSR Research Presentation

13. Human motion prediction with different performance measures

Authors: Y. Xiang, J.S. Arora, K. Abdel-Malek

Citation / Document Type: Journal of Biomechanics (2010)

14. Human motion simulation: from kinematics to dynamics

Authors: K. Abdel-Malek, J.S. Arora

Citation / Document Type: VSR Program Overview

15. Dynamic human motion prediction using a high-fidelity model

Authors: J.H. Kim, K. Abdel-Malek

Citation / Document Type: VSR Manuscript

16. Fast calculation of human joint torques for predictive dynamics

Authors: R. Bhatt, K. Abdel-Malek

Citation / Document Type: VSR Technical Report

17. Comparison of skeletal models for predictive dynamics

Authors: S. Rahmatalla, K. Abdel-Malek

Citation / Document Type: VSR Internal Study

18. Predictive dynamics: Ladder Climbing

Authors: J. Michael, S. Ewart, K. Abdel-Malek

Citation / Document Type: VSR Validation Report

9. Posture - IK

1. Multiple User Defined End-Effectors with Shared Memory Communication for Posture Prediction

Authors: Brent Rochambeau, Timothy Marler, Anith Mathai, and Karim Abdel-Malek

Citation / Document Type: SAE Technical Paper 2008-01-1922 (2008)

2. Study of Bi-Criterion Upper Body Posture Prediction Using Pareto Optimal Sets

Authors: R. Timothy Marler, Jingzhou Yang, Jasbir S. Arora, and Karim Abdel-Malek

Citation / Document Type: IASTED International Conference on Applied Simulation and Modeling (2005)

3. Multi-objective optimization-based method for kinematic posture prediction: development and validation

Authors: Jingzhou (James) Yang, Tim Marler, and Salam Rahmatalla

Citation / Document Type: Robotica, Vol. 29, pp. 245–253 (2011)

4. Real-Time Optimal Reach-Posture Prediction in a New Interactive Virtual Environment

Authors: Jingzhou Yang, R. Timothy Marler, Steven Beck, Karim Abdel-Malek, and Joo Kim

Citation / Document Type: Journal of Computer Science & Technology, Vol. 21, No. 2, pp. 189-198 (2006)

5. Modeling Dual-Arm Coordination for Posture: An Optimization-Based Approach

Authors: Kimberly Farrell, Timothy Marler, and Karim Abdel-Malek

Citation / Document Type: SAE Technical Paper 2005-01-2686 (2005)

6. Multi-objective Optimization for Upper Body Posture Prediction

Authors: Jingzhou Yang, R. Timothy Marler, HyungJoo Kim, Jasbir S. Arora, and Karim Abdel-Malek

Citation / Document Type: AIAA 45th Structures, Structural Dynamics, and Materials Conference (2004)

7. A New Discomfort Function for Optimization-Based Posture Prediction

Authors: Timothy Marler, Salam Rahmatalla, Meagan Shanahan, and Karim Abdel-Malek

Citation / Document Type: SAE Technical Paper 2005-01-2680 (2005)

8. A general analytic approach for Santos™ upper extremity workspace

Authors: Jingzhou Yang, Tariq Sinokrot, and Karim Abdel-Malek

Citation / Document Type: Computers & Industrial Engineering, 54, pp. 242–258 (2008)

9. Posture prediction and physics-based human motion simulation

Authors: —

Citation / Document Type: —

10. R Bhatt, K Farrell, K Abdel-Malek, J Arora, C Murphy

Authors: —

Citation / Document Type: —

11. DHM and Posturography, 425-440

Authors: —

Citation / Document Type: —

10. Human Modeling

1. A Geodesics-Based Model for Collision Avoidance Path Prediction

Authors: Jason Charles Olmstead Muhs

Citation / Document Type: Master's Thesis, The University of Iowa (July 2005)

2. Neural network for dynamic human motion prediction

Authors: Mohammad Bataineh, Timothy Marler, Karim Abdel-Malek, and Jasbir Arora

Citation / Document Type: Expert Systems With Applications, 48, pp. 26–34 (2016)

3. A Fuzzy Synthesis Control Scheme and Optimization for Vehicle Dynamic Stability System

Authors: Yunqing Zhang, Si Gao, Lingyang Li, Liping Chen, Jingzhou Yang, and Karim Abdel-Malek

Citation / Document Type: Proceedings of the ASME 2007 IDETC/CIE Conference, DETC2007-34518

4. Editorial: Human modeling and applications special issue

Authors: Karim Abdel-Malek

Citation / Document Type: Computer-Aided Design, 39, p. 539 (2007)

11. Physiology

1. Physiology - example 2.pdf

Authors: Karim A. Malek

Citation / Document Type: Virtual Soldier Research (VSR) Program Presentation (2/28/2024)

2. DHM 2016 - Female Extended Load Carriage 14 April 2016.pdf

Authors: R. Bhatt, J. Arora, K. Abdel-Malek, et al.

Citation / Document Type: Proceedings of the International Digital Human Modeling Symposium (DHM 2016)

3. Physiology - Mathai 2005.pdf

Authors: Anith Jacob Mathai

Citation / Document Type: Master's Thesis, The University of Iowa (May 2005)

4. Physiology - additional technical report

Authors: Karim A. Malek

Citation / Document Type: VSR Internal Technical Report

12. Open Architecture-API-SDK

1. Santos API and Development Guide

Authors: Andy Taylor (Lead), Corey Goodman, Meenal Kahandelwal

Citation / Document Type: Virtual Soldier Research Technical Manual, Version 1.6 (2013)

2. OpenArchitecture_07-18-2018.pdf

Authors: Karim A. Malek

Citation / Document Type: VSR Program Technical Presentation (2018)

3. Santos API and Development Guide (v1.5 Archive)

Authors: Andy Taylor

Citation / Document Type: VSR Internal Documentation (2012)

4. SDK Plugin Templates

Authors: Virtual Soldier Research Team

Citation / Document Type: VSR Software Development Kit (Code Samples)

5. Santos Platform & Open Architecture

Authors: Karim A. Malek

Citation / Document Type: Technical Overview White Paper

13. Muscle Activation

1. Muscle force and activation - Amos Patrick MS Thesis 2005.pdf

Authors: Amos Patrick

Citation / Document Type: Master's Thesis, The University of Iowa (May 2005)

2. A High Fidelity 3D Musculoskeletal Model of the Upper Arm for Real Time Interaction

Authors: Amos Patrick and Karim Abdel-Malek

Citation / Document Type: SAE Technical Paper 2005-01-2681 (2005) (File: SAE2006.pdf)

3. NURBS-Based Galerkin Method and Application to Skeletal Muscle Modeling

Authors: Xianlian Zhou and Jia Lu

Citation / Document Type: Muscle-SPM2005-final.doc / VSR Technical Paper (2005)

4. Muscle Wrapping and Modeling John Looft Thesis.pdf

Authors: John M. Looft

Citation / Document Type: VSR Research Presentation / Thesis Overview (under Karim A. Malek)

14. MotionCapture

1. SANTOS -EKTIMO- List of capabilities.pdf

Authors: Karim A. Malek

Citation / Document Type: iHuman Technology / VSR Technical Specification

2. Improved motion capture processing for high-fidelity human models using optimization-based prediction of posture and anthropometry.pdf

Authors: Anna Seydel, Kimberly Farrell, Ross Johnson, Timothy Marler, Salam Rahmatalla, Rajan Bhatt, and Karim Abdel-Malek

Citation / Document Type: Advances in Human Factors in Simulation and Modeling, pp. 549–561 (2018)

15. Injury Prediction

1. Digital human method and simulation for predicting musculoskeletal injuries.pdf

Authors: K. Abdel-Malek, J. Arora, R. Bhatt, S. Sultan, K. Farrell, L. Evans, K. Kregel, and T. Marler

Citation / Document Type: Virtual Soldier Research Program, University of Iowa

2. Repetitive-Task Ankle Joint Injury Assessment Using Artificial Neural Network.pdf

Authors: Sultan Sultan, Karim Abdel-Malek, Jasbir Arora, and Rajan Bhatt

Citation / Document Type: Advances in Human Factors in Simulation and Modeling, AHFE 2018

3. Human Simulation System for Injury Assessment Due to Repetitive Loading.pdf

Authors: Sultan Sultan, Karim Abdel-Malek, Jasbir Arora, and Rajan Bhatt

Citation / Document Type: Advances in Human Factors in Simulation and Modeling, AHFE 2017

4. iHuman malum injury prediction.pdf

Authors: Karim A. Malek

Citation / Document Type: Malum Terminus Technologies Inc. Technical Presentation

5. Digital human modeling for injury prevention.pdf

Authors: Rajan Bhatt, Tim Marler, Jasbir Arora, and Karim Abdel-Malek

Citation / Document Type: Virtual Soldier Research (VSR) Program White Paper

6. RepetitiveLoadingInjuryPrediction_Sultan_AHFE2017.pdf

Authors: Sultan Sultan, Karim Abdel-Malek, et al.

Citation / Document Type: AHFE 2017 Conference Proceedings

7. S Sultan, K Abdel-Malek, J Arora, R Bhatt

Authors: —

Citation / Document Type: —

8. Repetitive-Task Ankle Joint Injury Assessment Using Artificial Neural Network

Authors: —

Citation / Document Type: —

9. International Conference on Applied Human Factors and Ergonomics, 423-432

Authors: —

Citation / Document Type: —

16. Whole-Body Vibration (WBV) Research

1. A Framework to Study Human Response to Whole Body Vibration

Authors: Salam Rahmatalla, Ting Xia, James Ankrum, David Wilder, Laura Frey Law, Karim Abdel-Malek, Michael Contratto, Greg Kopp

Citation / Document Type: SAE Technical Paper 2007-01-2474 (2007)

2. Predictive Discomfort in Single- and Combined-Axis Whole-Body Vibration Considering Different Seated Postures

Authors: Jonathan DeShaw, Salam Rahmatalla

Citation / Document Type: Human Factors, Vol. 56, No. 5, pp. 850–863 (2014)

3. Human head–neck models in whole-body vibration: Effect of posture

Authors: Yang Wang, Salam Rahmatalla

Citation / Document Type: Journal of Biomechanics 46, pp. 702–710 (2013)

4. Three-dimensional motion capture protocol for seated operator in whole body vibration

Authors: Salam Rahmatalla, Ting Xia, Michael Contratto, Greg Kopp, David Wilder, Laura Frey Law, James Ankrum

Citation / Document Type: International Journal of Industrial Ergonomics 38, pp. 425–433 (2008)

5. A Quasi-static Discomfort Measure in Whole-body Vibration

Authors: Salam Rahmatalla, Rosalind Smith, John Meusch, Ting Xia, Tim Marler, Michael Contratto

Citation / Document Type: Industrial Health 48, pp. 645–653 (2010)

6. Effective seat-to-head transmissibility in whole-body vibration: Effects of posture and arm position

Authors: Salam Rahmatalla, Jonathan DeShaw

Citation / Document Type: Journal of Sound and Vibration 330, pp. 6277–6286 (2011)

7. Predictive discomfort and seat-to-head transmissibility in low-frequency fore-aft whole-body vibration

Authors: Jonathan DeShaw, Salam Rahmatalla

Citation / Document Type: Journal of Low Frequency Noise, Vibration and Active Control 30(3), pp. 185–195 (2011)

8. Comprehensive measurement in whole-body vibration

Authors: Jonathan DeShaw, Salam Rahmatalla

Citation / Document Type: Journal of Low Frequency Noise, Vibration and Active Control 31(2), pp. 63–74 (2012)

9. Whole-body vibration transmissibility in supine humans: Effects of board litter and neck collar

Authors: John Meusch, Salam Rahmatalla

Citation / Document Type: Applied Ergonomics 45, pp. 677–685 (2014)

10. Seat-to-Head Transmissibility Matrix for Multiple-Axis Vibration

Authors: Salam Rahmatalla, et al.

Citation / Document Type: VSR Technical Report Archive

11. Predictive Discomfort in Whole-Body Vibration

Authors: Jonathan DeShaw

Citation / Document Type: Master's Thesis, The University of Iowa (2011)

17. Human Performance – Dynamics physics based

1. Predictive dynamics: an optimization-based novel approach for human motion simulation

Authors: Y. Xiang, H.J. Chung, J.H. Kim, R. Bhatt, S. Rahmatalla, J. Yang, T. Marler, J.S. Arora, K. Abdel-Malek

Citation / Document Type: Structural and Multidisciplinary Optimization, 41, 465–479 (2010)

2. Optimization-based dynamic human walking prediction: one step formulation

Authors: Y. Xiang, J.S. Arora, S. Rahmatalla, K. Abdel-Malek

Citation / Document Type: International Journal for Numerical Methods in Engineering, 79(6), 667–695 (2009)

3. Dynamic motion planning of 3D human locomotion using gradient-based optimization

Authors: J.H. Kim, Q. Wang, S. Rahmatalla, C.C. Swan, J.S. Arora, K. Abdel-Malek

Citation / Document Type: Journal of Biomechanical Engineering, 130(3), 031002 (2008)

4. Optimization-based motion prediction of mechanical systems: sensitivity analysis

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