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[Continued on next page]

(54) Title: CONTROL OF ROBOTS FROM HUMAN MOTION DESCRIPTORS

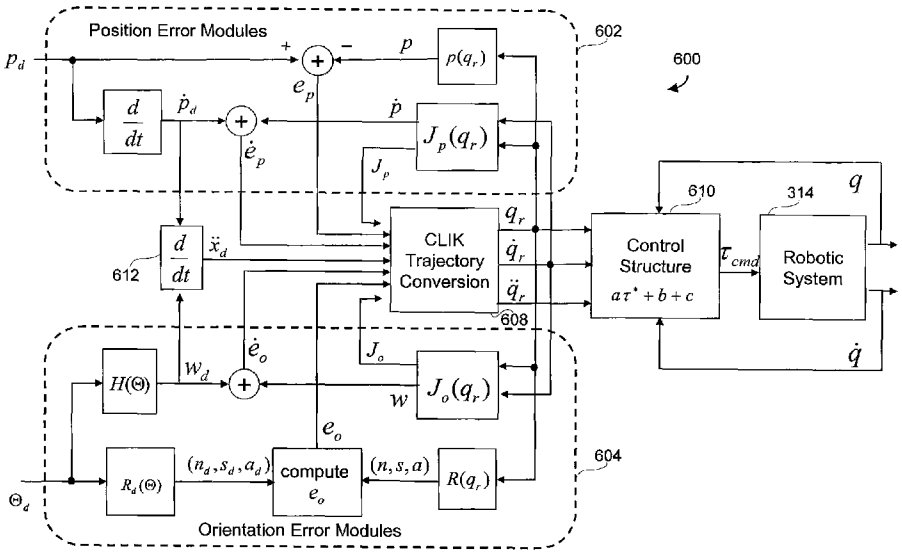


FIGURE 6

(57) Abstract: A control system and method generate torque comments for motion of a target system in response to observations of a source system. Constraints and balance control may be provided for more accurate representation of the motion as replicated by the target system.

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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER
IPC(8) - G05B 15/00 (2007.10)
USPC - 700/261
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
USPC: 700/261

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
USPC: 700/245, 260, 261; 901/2; 318/568.11, 568.12

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
Pub WEST (USPT, PGPB, EPAB, JPAB); Google Scholar
Search Terms Used: movement, robotic, torque, track, kinematics, inverse, jacobian matrix, human, mimic, source, motion, balance, exoskeleton, degree of freedom, singularity

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2005/0177276 A1 (Morel et al.) 11 August 2005 (11.08.2005), para [0001]-[0118].	1-35
Y	US 6,995,536 B2 (Challoner) 07 February 2006 (07.02.2006), col. 3, ln 3 - col. 6, ln 32.	1-20 and 26
Y	US 5,341,459 A (Backes) 23 August 1994 (23.08.1994), col. 5, ln 25 - col. 6, ln 49.	21-35
Y	US 2005/0107916 A1 (Nagasaka) 19 May 2005 (19.05.2005), para [0060]-[0066].	2 and 24
Y	US 2004/0267404 A1 (Danko) 30 December 2004 (30.12.2004), para [0068]-[0072].	3 and 4
Y	US 2002/0173878 A1 (Watanabe et al.) 21 November 2002 (21.11.2002), para [0017], [0026], [0045] and [0058].	6
Y	US 2003/0171847 A1 (Cheng et al.) 11 September 2003 (11.09.2003), para [0058]-[0059].	9 and 25
Y	US 4,999,553 A (Seraji) 12 March 1991 (12.03.1991), col. 8, ln 3 - col. 11, ln 33.	13 and 18
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Y	US 6,577,925 B1 (Fromherz) 10 June 2003 (10.06.2003), col. 3, ln 51 - col. 6, ln 62.	17, 23, 29 and 30
Y	US 5,159,249 A (Megherbi) 27 October 1992 (27.10.2002), col. 24, ln 24 - col. 35, ln 24.	4
A	US 2005/0246063 A1 (Oonaka) 03 November 2005 (03.11.2005).	1-35

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Date of the actual completion of the international search	Date of mailing of the international search report
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