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Vibroengineering Procedia
Volume 29, 1 November 2019, Pages 176-181
43rd International Conference on Vibroengineering; Bennett University Greater Noida; India; 28 November 2019 through 30 November 2019; Code 155847

Intelligent glove for suppression of resting tremor in parkinson's disease (Conference Paper) (Open Access)

Zulkefli, A.M.^b ✉️, Muthalif, A.G.A.^a ✉️, Nordin, D.N.H.^b ✉️, Syam, T.M.I.^a ✉️ 👤

^aDepartment of Mechanical and Industrial Engineering, College of Engineering, Qatar University, Doha, Qatar
^bSmart Structures, Systems and Control Research Lab (S3CRL) Department of Mechatronics Engineering, Kulliyah of Engineering, International Islamic University, Kuala Lumpur, Malaysia

Abstract

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One of the significant symptoms in Parkinson's disease is resting tremor. Resting tremor occurs when the muscle is relaxed, causing the limb to shake. Rhythmic muscle movement of the patients commonly happens within the range of 4 Hz to 6 Hz. Thus, reducing this type of tremor will help improve patients' quality of life. In this paper, to suppress resting tremors, an intelligent glove was designed utilizing the concepts of vibrations and gyro effect. A rotating brass disc attached to the glove creates a gyroscopic effect of the smart glove. Therefore, the disc will do their utmost to stay upright and counter any input forces instantaneously by providing the counterforce. A reduction of more than 50 % with the intelligent glove is also shown. © 2019 Adibah M. Zulkefli, et al.

SciVal Topic Prominence ⓘ

Topic: Essential Tremor | Tremor | Action tremor

Prominence percentile: 94.869 ⓘ

Author keywords

- Acceleration amplitude reduction
- Frequency response function (FRF)
- Gyro effect
- Intelligent glove
- Vibration suppression

Indexed keywords

Engineering controlled terms: Frequency response Gyroscopes

Engineering uncontrolled terms: Acceleration amplitude Frequency response functions Gyro effects Intelligent glove Vibration suppression

Engineering main heading: Muscle

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-
- 1 Björklund, L.M., Sánchez-Pernaute, R., Chung, S., Andersson, T., Chen, I.Y.C., McNaught, K.St.P., Brownell, A.-L., (...), Isacson, O.
Embryonic stem cells develop into functional dopaminergic neurons after transplantation in a Parkinson rat model ([Open Access](#))
- (2002) *Proceedings of the National Academy of Sciences of the United States of America*, 99 (4), pp. 2344-2349. Cited 979 times.
doi: 10.1073/pnas.022438099
- [View at Publisher](#)
-
- 2 Palacios-Sánchez, L., Nupan, M.T., Botero-Meneses, J.S.
James Parkinson and his essay on “shaking palsy”, two hundred years later ([Open Access](#))
- (2017) *Arquivos de Neuro-Psiquiatria*, 75 (9), pp. 671-672. Cited 2 times.
<http://www.scielo.br/pdf/anp/v75n9/0004-282X-anp-75-09-0671.pdf>
doi: 10.1590/0004-282X20170108
- [View at Publisher](#)
-
- 3 Helmich, R.C., Hallett, M., Deuschl, G., Toni, I., Bloem, B.R.
Cerebral causes and consequences of parkinsonian resting tremor: A tale of two circuits? ([Open Access](#))
- (2012) *Brain*, 135 (11), pp. 3206-3226. Cited 217 times.
<http://brain.oxfordjournals.org/>
doi: 10.1093/brain/aws023
- [View at Publisher](#)
-
- 4 Rana, Q.A., Siddiqui, I., Mosabbir, A.A., Qureshi, A.-R.M., Fattah, A., Awan, N.
Is action tremor in Parkinson's disease related to resting tremor?
- (2014) *Neurological Research*, 36 (2), pp. 107-111. Cited 4 times.
<http://www.maneyonline.com/doi/pdfplus/10.1179/1743132813Y.0000000274>
doi: 10.1179/1743132813Y.0000000274
- [View at Publisher](#)
-
- 5 Bhatia, K.P., Bain, P., Bajaj, N., Elble, R.J., Hallett, M., Louis, E.D., Raethjen, J., (...), Deuschl, G.
Consensus Statement on the classification of tremors. from the task force on tremor of the International Parkinson and Movement Disorder Society ([Open Access](#))
- (2018) *Movement Disorders*, 33 (1), pp. 75-87. Cited 178 times.
[http://onlinelibrary.wiley.com.ezproxy.um.edu.my/journal/10.1002/\(ISSN\)1531-8257](http://onlinelibrary.wiley.com.ezproxy.um.edu.my/journal/10.1002/(ISSN)1531-8257)
doi: 10.1002/mds.27121
- [View at Publisher](#)
-
- 6 Camara, C., Isasi, P., Warwick, K., Ruiz, V., Aziz, T., Stein, J., Bakštein, E.
Resting tremor classification and detection in Parkinson's disease patients
- (2015) *Biomedical Signal Processing and Control*, 16, pp. 88-97. Cited 29 times.
http://www.elsevier.com.ezproxy.um.edu.my/wps/find/journalbibliographicinfo.cws_home/706718/description#bibliographicinfo
doi: 10.1016/j.bspc.2014.09.006
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