Hello Potential Endorsers for Thomas H. Kerr III's Nomination for Harry H. Goode Award,

Form for IEEE Computer Society for Harry H. Goode award is found at the link below: https://awards.computer.org/ana/award/viewHomepage.action
and it requires three (3) endorsers. Nomination (has already been completed this time) and endorsements due on 1 October 2019 at 11:59 PM EDT.

Here is an easy way to view his previously published documents:
http://www.tekassociates.biz/optimizationtodefinetheteststatistic.pdf [Specifying the test statistic itself]

http://www.tekassociates.biz/False%20Alarm%20and%20Correct%20Detection%20over%20a%20time%20interval.pdf

http://www.tekassociates.biz/ReliabilityINSAvailability.pdf

http://www.tekassociates.biz/KerrIONSSBNPaper1981.pdf [Application for which I started looking into automated Failure Detection for INSes]

http://www.tekassociates.biz/DualitybetweenFailureandManeuverDetection.pdf

http://www.tekassociates.biz/AIAAIntegralEvaluationsForCR2.pdf

http://www.tekassociates.biz/DecentralizedFiltersAndRedubdancy.pdf [This received 1987 IEEE AES M. Barry Carlton Award]

http://www.tekassociates.biz/TestingLinearSystemSoftwareSPIE20014473-17.pdf

http://www.tekassociates.biz/kfdecentralizedkerrobservations.pdf

http://www.tekassociates.biz/OnWhetherTwoEllipesOverlap.pdf

http://www.tekassociates.biz/AbstractMiniatureAutonomousSystems3.pdf

As mentioned in an earlier email:

Examples of other people who utilized the work of Thomas H. Kerr III's in a variety of different areas and explicitly cited it (and was published in the open literature so it could be verified):
Uwe D. Hanbeck, "Recursive Nonlinear Set-Theoretic Estimation Based on Pseudo-Ellipsoids," Proceedings of the IEEE Conference on Multisensor Fusion and Integration for Intelligent Systems, pp. 159–164 (MFI' 2001), Baden–Baden
http://citeseerx.ist.psu.edu/viewdoc/summary?doi=10.1.1.304.8080
https://www.researchgate.net/publication/3955109_Recursive_nonlinear_set-theoretic_estimation_based_on_pseudo_ellipsoids https://core.ac.uk/display/22665895
https://core.ac.uk/display/24506648
http://citeseerx.ist.psu.edu/viewdoc/summary?doi=10.1.1.70.3779
Their patent abandoned by Siemens AG (perhaps because of prior art: me, after their due diligence): https://patents.google.com/patent/US20060234722A1/en

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Fuqiang You, Hualu Zhang, Fuli Wang, “A new set-membership estimation method based on zonotopes and ellipsoids,” Transactions of the Institute of Measurement and Control, Vol. 40, issue 7, pp. 2091-2099, Article first published online: 27 July 2016; Issue published: 1 April 2018
Grocholsky B., Stump E., Shiroma P.M., Kumar V., “Control for Localization of Targets Using Range-Only Sensors,” in Khatib, O., Kumar, V., Rus, D. (eds), Experimental Robotics, Springer Tracts in Advanced Robotics Series, Vol 39. Springer, Berlin, Heidelberg, pp. 191-200, 2008.
Ashok K. Rao, Yih-Fang Huang, and Soura Dasgupta, “ARMA Parameter Estimation Using a Novel Recursive Estimation Algorithm with Selective Updating,” IEEE Transactions on Acoustics, Speech, and Signal Processing, Vol. 38, No. 3, Mar. 1990.
https://www3.nd.edu/~huang/papers/IEEE-T-SP-Mar1990-RH.pdf Set Estimation: https://en.wikipedia.org/wiki/Set_estimation
Published January 2000
Authors: T.-G. Xie, Y.-H. Zhang 7228 Marguerite St, Vancouver BC, V6P5G3 yhzhang@asu.edu (604) 321-0983; https://ecee.engineering.asu.edu/project/yong-hang-zhang/
Title: "The application of two-ellipsoid overlap method to sensor fault detection and diagnosis"
Abstract: To realize real time fault detection and diagnosis when multi-sensors have faults simultaneously in the linear control system, a set of two-ellipsoid confidence regions was constructed based on two-ellipsoid overlap method. Each two-ellipsoid confidence region was used to detect the faults of the concerned sensor.
Two-ellipsoid overlap method can be applied to linear control systems where multi-sensors have faults simultaneously. This method can give the time the faults occur quickly and accurately, and find the faulty sensors. A method of choosing the degree of confidence was studied which leads to a low degree of missing alarm. Available from:
https://www.researchgate.net/publication/290601482_The_application_of_two-ellipsoid_overlap_method_to_sensor_fault_detection_and_diagnosis
To access the above link, simultaneously hit CONTROL key and left click the second line of the above link
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Conference Paper · September 2006
Author: Chingiz Hajiyev
Chingiz Hajiyev. Head of IT Department | Atilla Trans and Services A LLC. Location Azerbaijan Industry Information Technology and Services https://www.linkedin.com/in/chingiz-hajiyev-42856a30/ office@sinam.net
(+99 412) 510 11 00
Title: "Two-Interval Overlap Test for Faılure Predıctıon in Kalman Fılter"
Abstract: An approach to failure prediction in Kalman filter is developed which uses confidence and tolerance intervals for a innovation sequence. The algorithm proposed is based on the criterion of overlapping these intervals and allows the detection of potential failures in Kalman filter. The problem of failure prediction in multidimensional Kalman filters is solved too. In this case a multidimensional innovation sequence is replaced by one-dimensional sequences. Available from:
https://www.researchgate.net/publication/312218984_Two-Interval_Overlap_Test_for_Failure_Prediction_in_Kalman_Filter

Mirabadi, A., Schmid, F., Mort, N., “Fault detection and isolation in a multisensor train navigation system,” Proceedings 6th International Conference on Computer Aided Design, Manufacture, and Operation in the Railway and Other Advanced Mass Transit Systems, 2-4 Sep. 1998, Lisbon, Portugal, Computers in Railways VI, Advances in Transportation, Vol. 2, pp. 1025-1035, 1998.

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Article · December 2015

Authors: Chul Woo Kang, Chan Gook Park PostDoc Position Seoul National University , Seoul https://link.springer.com/article/10.1007/s12555-013-0410-4 chanpark@snu.ac.kr

Title: "A soft-failure detection and identification algorithm for the integrated navigation system of lunar lander"

Abstract: In this paper, a modified chi-square test is proposed to develop an autonomous fault detection and identification system for the navigation system in the lunar lander. The conventional fault detection logics, which is based on state chi-square test have had a limitation on fault identification. The proposed modified chi-square test computes modified chi-square parameter (MCP) by comparing the estimated states which is estimate on local filters to the propagated states. Because the MCP only contains the information of the respective sensor measurement, the MCP from failed measurement is contaminated by the fault. Thus, the MCP from other measurements is not contaminated by the fault, then the MCP from failed sensor can be easily distinguished by finding a diverging MCP signal.

Using the proposed method, the fault of the lunar lander can be efficiently detected and isolated.

A soft-failure detection and identification algorithm for the integrated navigation system of lunar lander.

Available from:

https://www.researchgate.net/publication/287374829_A_soft-failure_detection_and_identification_algorithm_for_the_integrated_navigation_system_of_lunar_lander

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AIAA Journal of Guidance, Control and Dynamics, Vol. 18, No. 4, 1995:

Authors: Ren Da; Ching-Fang Lin

Tel: (805) 582-0582

Title: "Failure diagnosis system using ARTMAP neural networks" Read More: https://arc.aiaa.org/doi/abs/10.2514/3.21449?journalCode=jgcd"

Abstract: see above link

The above document cited by:

Stephen Oonk , Francisco J. Maldonado , Fernando Figueroa , Ching-Fang Lin . (2012)

Title: Predictive Fault Diagnosis System for Intelligent and Robust Health Monitoring.

Journal of Aerospace Computing, Information, and Communication 9:4, 125-143

Online publication date: 1-Dec-2012.

Citation | PDF (1025 KB) | PDF Plus (879 KB)

Ching-Fang Lin, Fernando Figueroa, Richard Colgren, Stephen Oonk. 2010. Predictive Fault Diagnosis System for Intelligent and Robust Health Monitoring. AIAA Infotech@Aerospace 2010.

Citation | PDF (342 KB) | PDF Plus (359 KB)

Ching-Fang Lin, Fernando Figueroa, Anastasios Politopoulos, Stephen Oonk. 2010. Distributed Health Monitoring System for Reusable Liquid Rocket Engines. AIAA Infotech@Aerospace 2010.

Citation | PDF (681 KB) | PDF Plus (488 KB)
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Online publication date: 1-Jul-2001.
H.Y. Zhang, Y.J. Ye, C.W. Chan, K.C. Cheung. (1998) Fuzzy Artmap Neural Network and its Application to Fault Diagnosis of Integrated Navigation Systems. IFAC Proceedings Volumes 31:21, 243-248
Online publication date: 1-Aug-1998.
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Online publication date: 1-Apr-1998.
Herbert E. Rauch. (1997) A Control Engineer's View of Artificial Intelligence. IFAC Proceedings Volumes 30:25, 297-306
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Ten-Huei Guo, Joseph Saus, Ching-Fang Lin, Jian-Hua Ge. 1996. “Sensor validation for turbofan engines using an autoassociative neural network”. Guidance, Navigation, and Control Conference.
Ren Da, Ching-Fang Lin. (1996) Sensitivity Analysis of the State Chi-Square Test. IFAC Proceedings, Volumes 29:1, 6596-6601.
Online publication date: 1-Jun-1996.
Ren Da, Ching-Fang Lin. (1996) Sensitivity analysis algorithm for the state chi-square test. AIAA Journal of Guidance, Control, and Dynamics 19:1, 219-222
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Citation | PDF (513 KB) | PDF Plus (336 KB) Read More:
https://arc.aiaa.org/doi/abs/10.2514/3.21449?journalCode=jgcd
Mirabadi, A., Schmid, F., Mort, N., “Fault detection and isolation in a multisensor train navigation system,” Proceedings 6th International Conference on Computer Aided Design, Manufacture, and Operation in the Railway and Other Advanced Mass Transit Systems, 2-4 Sep. 1998, Lisbon, Portugal, Computers in Railways VI, Advances in Transportation, Vol. 2, pp. 1025-1035, 1998.
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M. D. Srinath is with the School of Engineering and Applied Science, Southern Methodist University, Dallas, TX 75275.
Brumback, B. D., Srinath, M. D., “A Fault-Tolerant Multisensor Navigation System-Design,” IEEE Trans. on Aerospace and Electronic Systems, Vol. 23, No. 6, pp. 738-756, 1987.
Brumback, B. D., Srinath, M. D., “A Chi-Square Test for Fault-Detection in Kalman Filters,” IEEE Trans. on Automatic Control, Vol. 32, No. 6, pp. 532-554, June 1987.
Kerr, T. H., “Comments on ‘A Chi-Square Test for Fault Detection in Kalman Filters’,” IEEE Transactions on Automatic Control, Vol. 35, No. 11, pp. 1277-1278, November 1990.

Thanks for your attention!