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	Authors:	Tanvir Singh, V. P. Agrawal	
	Paper Title:	Attribute based Specification, Comparison and Selection of Nanoactuator Elements	
1.	<p>Abstract: Organizations are deploying well designed nanoactuators supporting converged applications of defence, mechanical industry, and biological applications, etc. Optimum selection of nanoactuator elements for R & D of nanodevices for given application satisfying desired aims and objectives is a multiple attribute/criteria/objective decision making problem.</p> <p>The paper proposes technique for order preference by similarity to ideal solution (TOPSIS) to evaluate and rank nanoactuator elements in the presence of multiple attributes for solving the nanoactuator elements selection problem. The method normalizes attributes of nanoactuator elements to nullify the effect of different units and their values in the range of 0 to 1. The relative importance of different attributes of nanoactuator elements for different applications is considered. Euclidean distance of alternatives from these best and worst solutions of nanoactuator elements leads to the development of proximity /goodness/suitability index for ranking of nanoactuator elements. The method ensures that optimally selected nanoactuator elements are closest to the hypothetical best and farthest from the hypothetical worst solution. Research methodology in the form of step-by-step procedure is implemented with the help of an illustrative example.</p> <p>Keywords: Nanoactuator elements selection; MADM; TOPSIS; Pertinent attributes; Weighted normalization; Ranking.</p> <p>References:</p> <ol style="list-style-type: none"> G L. F. Mao, "Study of the conduction band offset alignment caused by Oxygen vacancies in sio2 layer and its effects on the gate leakage current in nano-MOSFETs", Iranian Journal of Science and Technology Transaction of Electrical Engineering, vol. 35 E1, 2011, pp. 1-11. J.S. Ghaffarpour, N.A. Ahmadi, S.M. Mortazavi, S.Vossough, "Rutting and fatigue behavior of nanoclay modified bitumen", Iranian Journal of Science and Technology Transaction of civil Engineering, vol. 35 C2, 2011, pp. 277-281. A. Sadrmomtazi, A. Fasihi, "Influence of polypropylene fibers on the performance of nano-SiO2- incorporated mortar", Iranian Journal of Science and Technology Transaction B: Engineering, vol. 34 B4, 2010, pp. 385-395. K.L. Edwards, Y.M. Deng, "Supporting design decision-making when applying materials in combination", Mater Des, vol. 28, 2007, pp.1288-97. R.V. Rao, J.P. Davim, "A decision-making framework model for material selection using a combined multiple attributes decision-making method", Int J Adv Manuf Technol, vol. 35, 2008, pp.751-60. P.E. Fisher, W. Lawrence, Selection of engineering materials and adhesives. Taylor & Francis Group: CRC Press; 2005. M.F. Ashby, K.Johnson, Materials and design: the art and science of materials selection in product design. Oxford: Butterworth Heinemann; 2002. M. Farag, Materials selection for engineering design. New York: Prentice-Hall; 1997. K.L. Edwards, "Selecting materials for optimum use in engineering components", Mater Des, vol. 26, 2005, pp. 469-73. Y.M. Deng, K.L. Edwards, "The role of materials identification and selection in engineering design", Mater Des, vol. 28, 2007, pp. 131-9. Z.X. Xiao, X.T. Wu, W.Y. Peng, K.R. Farmer, "An angle-based design approach for rectangular electrostatic torsion actuators", J Microelectromech Syst, vol. 10, 2001, 561-568. O. Degani, Y. Nemirovsky, "Design considerations of rectangular electrostatic torsion actuators based on new analytical pull-in expressions", J Microelectromech Syst, vol. 11, 2002, pp. 20-26. Y. Nemirovsky, O. Degani, "A methodology and model for the pull-in parameters of electrostatic actuators", J Microelectromech Syst, vol. 10, 2001, pp. 601-615. O. Degani et al., "Pull-in study of an electrostatic torsion micro actuator", J Microelectromech Syst, vol. 7(4), 1998, pp. 373-379. A. Cavalcanti, B. Shirinzadeh, Jr. R.A. Freitas, L.C. Kretly, "Medical Nanorobot Architecture Based on Nanobioelectronics", Recent Patents on Nanotechnology, vol. 1(1), 2007, pp. 1-10. M. Boukallel, M. Gauthier M. Dauge, E. Piat, J. Abadie, "Smart micro robots for mechanical cell characterization and cell conveying", IEEE Trans Biomed Eng 2007, vol. 54(8), pp. 1536-40. E.K. Drexler, "Protein design as a pathway to molecular manufacturing", Proc Natl Acad Sci USA, vol. 78(9), 1981, pp. 5275-5278. Z. Ghalanbor, S.A. Marashi, B. Ranjbar, "Nanotechnology helps medicine: nanoscale swimmers and their future applications", Med Hypotheses, vol. 65(1), 2005, pp. 198-199. T. Kubik, K. K. Bogunia, M. Sugisaka, "Nanotechnology on duty in medical applications", Curr Pharm Biotechnol, vol. 6(1), 2005, pp. 17-33. S.P. Leary, C.Y. Liu, M.L. Apuzzo, "Toward the Emergence of Nanoneurosurgery: Part III-Nanomedicine: Targeted Nanotherapy, Nanosurgery and Progress toward the Realization of Nanoneurosurgery". Neurosurgery, vol. 58(6), 2006, pp. 1009-1026. R.C. Shetty, "Potential pitfalls of nanotechnology in its applications to medicine: immune incompatibility of nanodevices", Med Hypotheses, vol. 65(5), 2005, pp. 998-9. O. B. Degani, Y. Nemirovsky, "Modeling the pull-in parameters of electrostatic actuators with a novel lumped two degrees of freedom pull-in model", Sens Actuat A, vol. 97-98, 2001, pp. 569-578. E.K. Drexler, Nanosystems: Molecular Machinery, Manufacturing, and Computations. Wiley-Interscience; New York: 1992. S.E. Lyshevski, NEMS and NEMS: Systems, Devices and Sh-uchdres. CRC Press Boca Raton: FL; 2002. S.E. Lyshevski, Nano- and Micro-Electromechanical Systems: Fundamental of Micro-and Nano- Engineering. CRC Press Boca Raton: FL; 1999. A.P. Darby, S. Pellegrino, "Modeling and control of a flexible structure incorporating inertial stick-slip actuators", J Guidance Control Dyn, vol. 22, 1999, pp. 36-43. W.Q. Hu, K.S. Ishii, A.T. Ohta, "Micro-assembly using optically controlled bubble micro robots", Appl. Phys Lett, vol. 99, 2011, pp. 094103. A. Shanian, O. A. Savadogo, "material selection model based on the concept of multiple attribute decision-making". Mater 		1-14

	<p>Des, vol. 27, 2006, pp. 329-37.</p> <p>29. A. Shanian, O. A. Savadogo, "TOPSIS multiple-criteria decision support analysis for material selection of metallic bipolar plates for polymer electrolyte fuel cell", J Power Sources, vol. 159, 2006, pp. 1095-104.</p> <p>30. R. V. Rao, Decision making in the manufacturing environment using graph theory and fuzzy multiple attribute decision-making methods. London: Springer-Verlag; 2007.</p> <p>31. R.V. Rao, "A material selection model using graph theory and matrix approach", Mater Sci Eng A, vol. 431, 2006, pp. 248-55.</p> <p>32. R.V. Rao, J.P. Davim, "A decision-making framework model for material selection using a combined multiple attributes decision-making method", Int J Adv Manuf Technol, vol. 35, 2008, pp. 751-60.</p> <p>33. B.D. Manshadi, H. Mahmudi, A. Abedian, R. Mahmudi, "A novel method for materials selection in mechanical design: combination of non-linear normalization and a modified digital logic method", Mater Des, vol. 28, 2007, pp. 8-15.</p> <p>34. C.L. Hwang, M. J. Lin, Group decision making under multiple criteria, methods and applications. Lecture notes in Economics and mathematical systems. Springer-Verlag Berlin: Heidelberg; 1987.</p> <p>35. G. Strang, Linear Algebra and Its Applications. Harcourt Brace Jovanovich: Publishers; 1980.</p>					
2.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">Authors:</td> <td>To-Po Wang</td> </tr> <tr> <td>Paper Title:</td> <td>A 71-76-GHz Receiver Frontend in 130-nm CMOS</td> </tr> </table> <p>Abstract: A 71-76-GHz receiver frontend with a variable gain range of 48.6 dB is proposed in this paper. The receiver frontend composes of a low-noise amplifier (LNA) and a variable-gain low-noise amplifier (VG-LNA). To achieve high gain and low noise figure, the LNA consists of two common-source stages, and the VG-LNA consists of five common-source stages. Moreover, the gate terminals of the MOSFETs are adjusted to varying the frontend's gain in this work. Based on these methods, a 71-76-GHz receiver frontend has been designed in 130-nm CMOS process. Simulated results confirm these methods applied to this receiver frontend can effectively achieve a high gain of 21 dB at 74 GHz, a variable gain range of 48.6 dB, a minimum noise figure of 6.2 dB at 71 GHz, an input-referred third-order intercept point (IIP3) of -11.0 dBm. In addition, the receiver frontend is with low supply voltage of 1.3 V.</p> <p>Keywords: Low-noise amplifier (LNA), millimeter-wave (mm-wave), variable-gain low-noise amplifier (VG-LNA).</p> <p>References:</p> <ol style="list-style-type: none"> 1. FCC [Online]. Available: http://www.fcc.gov, 2007. 2. M. A. Masud, H. Zirath, M. Ferndahl, and H. O. Vickers, "90 nm CMOS MMIC amplifier," in IEEE Radio Frequency Integrated Circuit (RFIC) Symp., 2004, pp. 201-204. 3. T. Yao, M. Gordon, K. Yau, M.T. Yang, and S. P. Voinigescu, "60-GHz PA and LNA in 90-nm RF-CMOS," in IEEE Radio Frequency Integrated Circuit (RFIC) Symp., 2006, pp. 147-150. 4. S. T. Nicolson and S. P. Voinigescu, "Methodology for simultaneous noise and impedance matching in W-band LNAs", in IEEE Compound Semiconductor Integrated Circuit Symposium (CSIC), Nov. 2006, pp. 279-282. 5. B. Heydari, M. Bohsali, E. Adabi, and A. M. Niknejad, "Low-power mm-wave components up to 104 GHz in 90 nm CMOS," in IEEE Int. Solid-State Circuit Conf. Tech. Dig., Feb. 2007, pp. 200-201. 6. C. C. Kuo, Z. M. Tsai, J. H. Tsai, and H. Wang, "A 71-76 GHz CMOS variable gain amplifier," in IEEE Radio Frequency Integrated Circuit (RFIC) Symp.2008, pp. 609-612. 7. P. Yan, J. Chen, and W. Hong, "Development of V-band low-noise amplifiers in 90nm CMOS," in IEEE Microwave Workshop Series on Millimeter Wave Wireless Technology and Applications (IMWS), Sept. 2012, pp. 1-3. 8. C. H. Doan, S. Emami, A. M. Niknejad, and R. W. Brodersen, "Millimeter-wave CMOS design," IEEE J. Solid-State Circuits, vol. 40 no. 1, pp. 144-155, Jan. 2005. 9. J. H. Tsai, W. C. Chen, T. P. Wang, T. W. Huang, and H. Wang, "A miniature Q-band low noise amplifier using 0.13 μm CMOS technology," IEEE Microwave and Wireless Component Letter, vol. 16, pp.327-329, June 2006. 10. C. M. Lo, C. S. Lin, and H. Wang, "A miniature V-band 3-stage cascade LNA in 0.13 μm CMOS," in IEEE Int. Solid-State Circuit Conf. Tech. Dig., Feb. 2006, pp. 21-23. 11. T. P. Wang and H. Wang, "A broadband 42-63-GHz amplifier using 0.13-μm CMOS technology," in IEEE MTTES Int. Microwave Symp., 2007, pp.1779-1782. 12. T. P. Wang and H. Wang, "A 71-80-GHz amplifier using 0.13-μm CMOS technology", IEEE Microwave and Wireless Component Letter, vol. 17, pp.685-687, Sept. 2007. 	Authors:	To-Po Wang	Paper Title:	A 71-76-GHz Receiver Frontend in 130-nm CMOS	15-18
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3.	<ol style="list-style-type: none"> 6. D. Thassu, M. Deleers, Y. Pathak. Nanoparticulate Drug-Delivery Systems, New York: Informa Healthcare USA, 2007, pp. 1-33 7. P. Calvo, C. Remuñán-López, J. L. Vila-Jato, M. Alonso. "Novel hydrophilic chitosan-polyethylene oxide nanoparticles as protein carriers," J. Appl. Polym. Sci., 63, 1997, pp. 125-132 8. J. Adlin, K. Gowthamarajan, C. Somashekhara. "Formulation and evaluation of nanoparticles containing flutamide," Int. J. Chem.Tech. Research, 1(4), 2009, pp. 1331-1334 9. A. Da Silveira, G. Ponchel, F. Puisieux, D. Duchene. "Combined poly(isobutylcyanoacrylate) and cyclodextrins nanoparticles for enhancing the encapsulation of lipophilic drugs," Pharm. Res., 15, 1998, pp. 1051-1055 10. J. Zhao, J. Wu. "Preparation and Characterization of the Fluorescent Chitosan Nanoparticle Probe," Chin. J. Anal. Chem., 34(11), 2006, pp. 1555-1559 11. S. Kong, L. Blennerhassett. "Ischemia-reperfusion injury to the intestine," Aust. N. Z. J. Surg., 68, 1998, pp. 554-560 12. G. L. Ellman. "Tissue sulfhydryl groups," Arch. Biochem. Biophys., 82, 1959, pp. 70-76 13. H. Ohkawa, N. Ohishi, K. Yagi. "Assay for lipid peroxides in animal tissues by thiobarbituric acid reaction," Anal. Biochem., 95, 1979, pp. 351-356 14. L. Hong-Shiee, C. Wei-Jao, C. Long-Yong. "Free Radical Scavenging Activity of Fullerenol on the Ischemia-reperfusion Intestine in Dogs," World J. Surg., 24, 2000, pp. 450-454 15. H. Aebi. "Catalase in vitro," Methods Enzymol., 105, 1984, pp. 121-126 16. M. Ozaki, M. Nakamura, S. Teraoka, K. Ota. "Ebselen, a novel anti-oxidant compound, protects the rat liver from ischemia-reperfusion injury," Transpl. Int., 10, 1997, pp. 96-102 17. I. Rahman, W. Mc Knee. "Oxidative stress and regulation of glutathione in lung inflammation," Eur. Respir. J., 16, 2000, pp. 534-554 18. A. Pastore, G. Federici, E. Bertini, F. Piemonte. "Analysis of glutathione: implication in redox and detoxification," Clin. Chim. Acta, 333, 2003, pp. 19-39 19. K. Bowman, K. Leong. "Chitosan nanoparticles for oral drug and gene delivery," Int. J. Nanomedicine, 1, 2006, pp. 117-28 20. P. Laurienzo. "Marine polysaccharides in pharmaceutical applications: an overview," Mar. Drugs, 8, 2010, pp. 2435-65 21. J. H. Park, G. Saravanakumar, K. Kim, I. Kwon. "Targeted delivery of low molecular drugs using chitosan and its derivatives," Adv. Drug Deliv. Rev., 62, 2010, pp. 28-41 22. J. Szejtli. "Introduction and general overview of cyclodextrin chemistry," Chem. Rev., 1998, pp. 1743-1754 23. D. Bibby, N. Davies, I. Tucker. "Poly(acrylic) microspheres containing cyclodextrin: Loading and in vitro release of two dyes," Int. J. Pharm., 187, 1999. Pp. 243-250 24. M. Fermeglia, M. Ferrone, A. Lodi, S. Prici. "Host-guest inclusion complexes between anticancer drugs and cyclodextrin: Computational studies," Carbohydr. Polymer, 53, 2003, pp. 15-44 	19-23				
4.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">Authors:</td> <td>Mendpara Kishankumar, Patel Manish</td> </tr> <tr> <td>Paper Title:</td> <td>Medial Image Registration Based on Information Theoretic Approach</td> </tr> </table> <p>Abstract: Image Registration is basic step in image processing applications. By matching of two or more images taken at different times, from different angles or from different sensors we can get registration of those images. The registration process aligns the reference and target images. The formal approaches can be categorized according to their nature of procedure and from four basic steps of image registration process like feature detection, feature matching, estimation of transformation and image resampling and transformation. Medical image registration techniques further can be classified according to different modalities involved in registration process. In survey papers related to image registration there are different methods of medical image registration can be found and based on that methods we can compare that different methods with information theory based methods.</p> <p>Keywords: Image Registration, Information Theory, Medical Image Processing, Mutual Information</p> <p>References:</p> <ol style="list-style-type: none"> 1. Brown Gottesfeld L., "Survey of Image Registration Techniques", ACM Computing Surveys, 24, 4, 1992, 325-376. 2. Barbara Zitova, Jan Flusser, "Image registration methods:A survey", Image and Vision Computing 21(2003)977-1000. 3. J.B. Antoine Maintz and Max A. Viergever , "A Survey of Medical Image Registration" ,Medical Image Analysis,(1/98) volume 2. number1,pp. 1-37 4. Calvin R.,J Michael, "A Review of Medical Image Registration",28,1,1993. 5. Aristeidis Sotiras, Christos Davatzikos, Nikos Paragios, "Deformable Medical Image Registration: A Survey", IEEE Transactions on Medical Imaging, vol. 32, no. 7, July 2013. 6. J. P. W. Pluim, J. A. Maintz, and M. A. Viergever, "Mutual-information-based registration of medical images: A survey," IEEE Transactions on Medical Imaging, vol. 22, no. 8, pp. 986-1004, Aug. 2003. 7. Derek Hill, Philipp Batchelor, Mark Holden and David J Hawkes, "Medical image registration", Phys. Med. Biol. 46 (2001) R1-R45 8. F. Maes, A. Collignon, D. Vandermeulen, G. Marchal, and P. Suetens, "Multimodality image registration by maximization of mutual information", IEEE Transaction Medical Imaging, vol. 16, no. 2, pp. 187-198, Apr.1997. 9. Thomas M. Lehmann, Claudia Gonner and Klaus Spitzer, "Survey: Interpolation Methods in Medical Image Processing", IEEE Transactions on Medical Imaging, vol. 18, no. 11, november 1999. 10. Philippe Thévenaz and Michael Unser, "Optimization of Mutual Information for Multiresolution Image Registration", IEEE Transactions on Medical Imaging, vol. 9, no. 12, december 2000. 11. Paul Viola ,William M.Wells III, "Alignment by Maximization of Mutual Information", International Journal of Computer Vision, 24(2) pg 137-154, 1997. 12. W. M. Wells III, P. Viola, H. Atsumi, S. Nakajima, and R. Kikinis, "Multi-modal volume registration by maximization of mutual information," Med. Image Anal., vol. 1, no. 1, pp. 35-51, 1996. 13. P. Thévenaz and M. Unser, "Optimization of mutual information for multiresolution image registration," IEEE Trans. Image Processing, vol. 9, pp. 2083-2099, Dec. 2000.R. Chen et al., "Toward Secure Distributed Spectrum Sensing in Cognitive Radio Networks," IEEE Commun. Mag., vol. 46, pp. 50-55, Apr. 2008. 	Authors:	Mendpara Kishankumar, Patel Manish	Paper Title:	Medial Image Registration Based on Information Theoretic Approach	24-27
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