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	Paper Title:	Optimal Design of Update and Predictions of Adaptive Directional Lifting based on CDF9/7 or SPL 5/3 for lossy to lossless Image Compression	
	<p>Abstract: In this paper we introduce an adaptive local pdf estimation strategy for the construction of Generalized Lifting (GL) mappings in the wavelet domain. Our approach consists in trying to estimate the local pdf of the wavelet coefficients conditioned to a context formed by neighboring coefficients. To this end, we search in a small causal window for similar contexts. Further, this strategy modified to new adaptive lifting scheme that not only locally adapts the filtering directions to the orientations of image features, but also adapts the lifting filters to the statistic properties of image signal. The proposed approach refines previous adaptive directional lifting-based wavelet transform (ADL) by combining directional lifting and adaptive lifting filters to form a unified framework. The prediction step is designed to minimize the prediction error of the image signal, and the update step is designed to minimize the reconstruction error. Experimental results show that the proposed ADL-based on CDF9/7 or SPL 5/3 wavelet transform for image coding outperforms the conventional lifting-based wavelet transform up to 4.12 dB in PSNR and significant improvement in subjective quality is also observed. Compared with the previous ADL approach, up to 1.08 dB improvement in PSNR is reported.</p> <p>Keywords: Adaptive Directional Lifting, Cohen–Daubechies–Feauveau 9/7 Generalized Lifting, spine5/3.</p> <p>References:</p> <ol style="list-style-type: none"> G. Wallace, "The JPEG still picture compression standard", IEEE TCE, 38, 2012. I. Daubechies, W. Sweldens, 2012, "Factoring wavelet into lifting steps", J. Fourier Anal. in Proceedings of Advanced Concepts for Intelligent Vision Systems Wavelets By K.P. Soman, K.I. Ramachandran, N.G. Resmi, Third Edition, PHI Publication, ISBN: 978-81-203-4053-4 O. Strome et al, 2013, "Study of wavelet decompositions for image compression by software codecs", IEEE, pp.125–132. N.V. Boulgouris, Dimitrios Tzavaras and Michael Gerassimos Strintzis, 2011, "Lossless image compression based on optimal prediction, adaptive lifting and Conditional arithmetic coding", IEEE Transaction on Image Proc., Vol.10 (1), pp.1–14. Omer N. Gerek and Enis Cetin. A., (2013), "A 2-D Orientation Adaptive Prediction Filter in Lifting Structures for Image Coding", IEEE Transactions on Image Proc., vol.15, pp.106–111 Ömer Nezih Gerek, A. Enişçetin, 2010, "Adaptive polyphase decomposition structure for image compression", IEEE Trans. On Image Processing, Vol.9 (10). Piella G. and Heijmans, H. J. A. M. (July. 2012) "Adaptive lifting Schemes with perfect reconstruction," IEEE Transactions on Signal Processing, vol. 50, no. 7, pp 1620–1630. R.L. Caypoole, G.M. Davis, W. Sweldens, and R. Gboranuk, 2013, "Nonlinear wavelet transforms for image coding via lifting", IEEE Trans. on Image Processing, Vol.12, pp.1149–1459. Said A. and William A. Pearlman., (2009), "A New, Fast Efficient Image Codec Based Set Partitioning Hierarchical Trees", IEEE Transaction on Circuit and Systems for Video Technology, vol.6 No.3, pp 243–250 Sanjay H. Dabhole, , Johan Potgieter, An efficient modified structure of cdf 9/7 wavelet based on adaptive lifting with spilt for lossy to lossless image compression. IEEE explore digital library of Signal Processing, Image Processing and Pattern Recognition -2012. Sanjay H. Dabhole, Johan Potgieter, Performance evaluation of traditional and adaptive lifting based wavelets with spilt for lossy image compression, IEEE explore digital library of Signal Processing, Image Processing and Pattern Recognition-2012. Second Generation Wavelets and applications by marten H. Jansen, Patrick J. Oonincx, Springer Publication, 2010. ISBN: 1849969582, 9781849969581. Shaoyu Zheng, Fang Xu, Deqing Wang (2009) "An Improved Adaptive Lifting Scheme Combining Gradient Operator for Image Coding 1st International conference on information science and engineering vol.1, pp-1133-1136. Sweldens, W. (1996) "The lifting scheme: A custom-design construction of biorthogonal wavelets," Applied and computational Harmonic Analysis" vol. 3, no. 2, pp. 186–200 The Essential Guide to Image Processing By Alan Conrad Bovik, Elsevier Inc. Publication, ISBN: 978-0-12-374457-9 W. Sweldens, 1997, "The lifting scheme: A construction of second generation wavelets", SIAM J. Math. Anal., Vol.29 (2), pp.511–546. Wavelets and Filter Banks by Gilbert Strang, Truong Nguyen, Wellesley-Cambridge Press, ISBN: 0-9614088-7-1 Xiaoyuan Yang, Zhipin Zhu, Bo Yang, (2008) "Adaptive Lifting Scheme for Image Compression, Fifth International Conference on Fuzzy Systems and Knowledge Discovery, vol. 1, pp.547-551 		1-11
2.	Authors:	M.El Mamy. M. Mahmoud, Ahmed. Yahfdhou, O.H. Lemrabott, Chighali Ehssein, Abdel Kader. Mahmoud, I. Youm	
	Paper Title:	Photovoltaic Pumping System for Application to Sites in Mauritania	
	<p>Abstract: In Sahelian countries, using the solar pump can be technically and economically effective. Therefore, in the aim of integrating the solar pumping in targeted communities, three locations were selected in Rosso, which is the regional capital of Trarza Province. The localities of these sites will benefit from the pumping system, once developed. It is important to note that the solar pumping is important to the targeted areas, as a simple technic that involves pumping water under the sun and works only with the sun. At night, the pump does not work, but the water can be stored in a tank at a height (H), for use as needed. In practice, two sensors are installed, one avoids dry running of the pump and the other prevents tank overflow. The proposed pilot photovoltaic pumping system for the study is the ISET of Rosso (Higher Institute for Technological Studies). Hence, two sites were created on that basis, one at Bameira village and the second at Entvachit. In this context, we are studying first, the characteristics of the photovoltaic generator through mathematical models and simulations of its parameters by MATLAB. Secondly, we offer simulations, using the software "KaleidaGraph" to confirm the electric models of the system under actual operating conditions that require different parameters which characterize the water point, as the depth of the water point, the flow rate etc.... Likewise, as our pumping system test is the one of the ISET of Rosso. It consists of an artificial lake with depths between 1 and 5 m. To keep this depth (HMT = level difference + the sum of the head losses), we proceed to winnowing using the faucet, installed at the outlet of the discharge pipe. Thus, the following winnowing, as it is long or less, has a direct impact on the pump performance (power consumption, yield.... Thus, we</p>		12-20

propose to show through this work, the influence of the control valve on the different performance of our integrated solar pump in the solar pumping system, under climatic conditions in Trarza (Mauritania).

Keywords: Mauritania, Photovoltaic, Pumping, Matlab, KaleidaGraph, Winnowing.

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Authors: Khanh Nguyen Trong, Doanh Nguyen Ngoc

Paper Title: Towards a Collaborative Integrated Development Environment for Novice Programmers

Abstract: Integrated Development Environments (IDEs) are one of the most used tools in many programming courses. However, they usually do not support the interaction and collaboration between learners and instructors. The aim of our research is to provide methods and frameworks facilitating the collaboration. The originality of our approach is to place courses, and also code sources at the center of collaboration. From this idea, we have designed and developed a collaborative IDE (CIDE). It is a type of web-based groupware containing common conventional collaborative tools (video-conferencing, instant messaging, and so on) and specific IDE dedicated to the programming practice (write code together, track change, versioning...). In this paper, we will present our collaborative IDE.

Keywords: Computer Support Collaborative Learning; CSCL; Collaborative and Interactive Programming; CSCW; Collaborative Integrated Development Environment; Collaborative learning.

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Authors:	Rena J. Kasumova, V. J. Mamedova, G.A. Safarova, N.V. Keriml
Paper Title:	On Increasing the Conversion Efficiency to Second-Harmonic for Undoped and Doped ZnO Nanocomposites

Abstract: Theoretical investigation of frequency transformation for the case of pure ZnO films, ZnO: Ag (1.6 at.%) and ZnO: Cu (4.7 at.%) enables increasing conversion efficiency while taking phase effects into consideration. We will use the constant-intensity approximation of fundamental radiation. This analytical method also allows to approximately measure the maximum of second--harmonic intensity for the case of ZnO films with silver and copper impurities. We will analyze the parameters that restrict the efficiency of frequency conversion. We can calculate the coherent length of crystal converter at given pump intensity. These methods of investigation for second-harmonic generation in pure and doped ZnO films can be useful in the research area of other film.

Keywords: nanocomposite film; dopant; second-harmonic generation method; constant-intensity approximation. PACS Number(s): 42.65.-k, 42.70.a, 42.70.Mp, 61.46. – w

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Authors:	P. Maddileti	
Paper Title:	Numerical Solutions of Heat and Mass Transfer Effects on an Unsteady MHD Convective Flow Past A Vertical Plate Embedded In Porous Medium Through Finite Element Method	
	<p>Abstract: The objective of this paper is to study the effects of heat and mass transfer on unsteady hydromagnetic free convective flow of a viscous incompressible electrically conducting fluid past an infinite vertical porous plate in presence of constant suction. The fundamental governing equations of the flow field are solved using finite element method and the numerical solutions are obtained for velocity, temperature, concentration distributions. The effects of different physical flow parameters on these respective flow fields are discussed through graphs and results are physically interpreted. The problem has some relevance in the geophysical and astrophysical studies.</p>	
	<p>Keywords: Heat and Mass transfer, Porous Medium, MHD, Finite Element Method.</p>	
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6.	<table border="1"> <tr> <td>Authors:</td> <td>Maricris J. Olayvar, Joe Prince R. Dueñas, Jemima Lois M. Rey, Mark Allen R. Ortizano, Emerlyn D. Benitez, Roselito E. Tolentino</td> </tr> <tr> <td>Paper Title:</td> <td>Design and Implementation of Mimicking Robotic Neck Improving Hyper-Flexion/Extension Movement and Lateral Bending using Linear Motor for Force Requirement Improvement</td> </tr> <tr> <td>Abstract:</td> <td> <p>This paper presents a humanoid robot that has been developed to mimic human neck movement that can support the actual weight of human head using linear motor while performing the four degrees of freedom of the human neck. Linear motor is preferred to be used because of its ability to produce high force and lift heavy-weighted objects. The paper describes details of the mechanical design, control system and the controller design. The system has been developed in Arduino IDE platform and LabVIEW robotics. To demonstrate the mimicking capabilities of the robotic neck, we present accuracy test results, and the implementation of closed-loop control on the neck.</p> </td> </tr> <tr> <td>Keywords:</td> <td>Degree of Freedom, Humanoid Robotics, Linear Motor, Mimicking, Robotic Neck</td> </tr> </table>	Authors:	Maricris J. Olayvar, Joe Prince R. Dueñas, Jemima Lois M. Rey, Mark Allen R. Ortizano, Emerlyn D. Benitez, Roselito E. Tolentino	Paper Title:	Design and Implementation of Mimicking Robotic Neck Improving Hyper-Flexion/Extension Movement and Lateral Bending using Linear Motor for Force Requirement Improvement	Abstract:	<p>This paper presents a humanoid robot that has been developed to mimic human neck movement that can support the actual weight of human head using linear motor while performing the four degrees of freedom of the human neck. Linear motor is preferred to be used because of its ability to produce high force and lift heavy-weighted objects. The paper describes details of the mechanical design, control system and the controller design. The system has been developed in Arduino IDE platform and LabVIEW robotics. To demonstrate the mimicking capabilities of the robotic neck, we present accuracy test results, and the implementation of closed-loop control on the neck.</p>	Keywords:	Degree of Freedom, Humanoid Robotics, Linear Motor, Mimicking, Robotic Neck	40-47
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