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Journal Name:	British Journal of Applied Science & Technology
Manuscript Number:	2013_BJAST_6717
Title of the Manuscript:	Intelligent Ultrasonic Power Supply based on HPWM
Type of the Article	Research Paper

PART 1: Review Comments



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	Reviewer's comment The present paper is focused on the study and the design of the ultrasonic power supply based on HPWM to improve the control scheme of the inverter which is implemented in TMS320F2812 control chip. HPWM control signal is generated using a voltage and current double closed-loop PI. It is difficult to understand the objective of the present work. It will be appreciated if the authors respond to the following comments/suggestions: In my opinion, it will be more explicit if authors rewrite relevant sections and compare their findings to relevant recent published papers in detail Abstract: doesn't show clearly the objective of the work and the impact of the results Introduction: the literature used is not good enough and do not justify the importance of this paper, references cited are not relevant and	Author's comment 1. Yes, according to the template SDI_Paper_template_2012, the abstract and introduction of the article have been modified. Thank you for your reminder. 2. Actually, there are some grammatical errors in this paper. As you proposed, I have revised some sentences with true grammatical. Thank you for your reminder. 3. In Section 5.B paragraph 5, it tells about the generation of HPWM, which is used by the symmetrical regular sampling method. In Section 5.A I will describe the PID controller more clearly and use more suitable sentence. Thanks for your comment.
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	adequate and not easy to find. In relation to the text of the paper itself, I recommend to review the paper, possibly with the assistance of others to remove grammatical errors. For example, in the introduction the following sentences are grammatically incorrect (sentences begin with (with and, but,...) (And with the constantly appearance of the new power electronic devices, the development towards the direction of high-power and high-frequency ultrasonic power supply could be improved. But because of the influence of the switching frequency of these devices, the development of high-power and high-frequency ultrasonic power supply is limited. And traditional control methods, such as SPWM control, it makes the problems of the switch significant particularly, which are large switching losses and short service life, further impact on the development of high-frequency power supply).	
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	As stated by the authors at the end of the introduction (The innovation point is the application of advanced digital control chip combining with HPWM control technology, which can reduce the switching loss of high frequency switching devices and harmonic distortion degree as far as possible, thus to improve the performance of the inverter power supply system), going through the manuscript the authors didn't confirm their statement. How the inverter performance is evaluated? By calculating the THD of inverter voltage and current waveform . - In the experimental section to confirm the theoretical developments only one wave of High-frequency driving waveform of MOSFET is presented in Fig 7, in my opinion this is not enough the inverter output waveforms should be presented along with voltage and current spectrum to show the harmonic distortion degree (THD) and MOSFET signal generation using HPWM.	
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	- Section 5.B paragraph 5, the text is difficult to understand and the sentences are too long. The system parameters can be presented in a table. - What mixed HPWM and four switch tubes mean? - Section 5.A, Digital PI Control Principle of the Inverter Power Supply. The authors talk about PID controller (PID control is adopted as the control strategy of inverter system in this paper) but the sub-title and the Fig.4 showing that PI controller is used in this work, there is a confusion in this section. The present paper needs a section for results and discussions supported with recent references The conclusion doesn't reflect the content of the manuscript. I suggest to the authors to read the following paper in order to help improving their paper - M. Harshavarshan Reddy, G.Kishor, G. Satheesh, T. Bramhananda Reddy, Digital	
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	simulation of hybrid PWM inverter fed induction motor using two inductor boost converter, IEEE- International Conference On Advances In Engineering, Science And Management (ICAESM -2012) March 30, 31,2012. - V.S.S.P.K. Hari G. Narayanan, Space-vector-based hybrid pulse width modulation technique to reduce line current distortion in induction motor drives, Published in IET Power electronics, www.ietdl.org. In conclusion needs a major revision and the authors should take in consideration the comments and the suggestion given above and compare their findings to that of other authors working on the same subject in order to improve their paper and resubmit their paper	
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<u>Compulsory</u> REVISION comments		
<u>Minor</u> REVISION comments		
<u>Optional/General</u> comments		