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Journal Name:	**Physical Review & Research International**
Manuscript Number:	**2013_PRRI_5663**
Title of the Manuscript:	**Improvement in Gasochromic Properties of Tungsten Trioxide by Optimized Pd Doping**
Type of the Article	**Research Paper**

General guideline for Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty'**, provided the manuscript is scientifically robust and technically sound.
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PART 1: Review Comments

	Reviewer's comment	**Author's comment** *(if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)*
Compulsory REVISION comments	This paper reported the gasochromic properties of a $PdCl_2$-doped WO_3 towards H_2. The topic is not new, and the authors did not provide enough new findings that may be useful or instructive to readers working in related areas. Moreover, much more work is needed to complement the research paper. In all, the authors just provided an experimental report with little discussion and quite limited experimental results. Detailed comments are provided as follows: (1) English writing needs to be further improved. Sometimes the grammatical errors greatly hindered the understanding; (2) In the Introduction section, the authors need to reorganize the paragraphs. It should be developed in a logical way, and it is quite improper to emphasize the advantage of the gasochromic sensor over resistive sensor at the end of this section. Moreover, the authors should make a comprehensive literature review to reflect the up-to-date progress in the research area, and clearly show the features or the advantages of their research work over previous achievements; (3) In the Material and Methods section, the	

	authors should provide the details of their measurement setup, and the parameters such as the gasflow speed, the composition of tested hydrogen and oxygen, the measurement temperature. They said that "the colored films are flushed with 10 lit/min O2 gas for 1min to meet 10% of their initial transmissions. Finally, the samples are exposed to the air to achieve their initial transmissions". What does this mean? Why did they do so? Do they mean that all the gasochromic sensors could "meet 10% of their initial transmissions by flushing with oxygen for the same time of 1 min? (4) They claimed that it is a thin film device, and thus the thickness of the film must be provided. They provided transmission spectrum in Fig. 7. The wavelength range from 350 to 850 nm. Why did they use glass instead of quartz as the substrate for film preparation? (5) How did the response time and recovery time defined? In the paper, the authors did not provide any figure showing the real-time response of the sensor to hydrogen and oxygen or air. It is therefore impossible to evaluate the dynamics of the sensor and compare the sensing properties of the $PdCl_2$-doped sensor with the literature results; (6) The discussion on the effect of annealing temperature on the sensing performance is just hypothesis without the support of any proof.	

	The so-called effect of $PdCl_2$ concentration on the sensing behaviors of WO_3 is not at all acceptable. Anyway, it is impossible to make a conclusion for the "trend" with only three data. Moreover, the WO_3 was doped with $PdCl_2$ instead of Pd since no reduction of $PdCl_2$ occurs before the exposure to hydrogen, and it is therefore improper to use the phrase "Pd-doped"; (7) The authors provided the SEM figures of the $PdCl_2$-doped WO_3, but no comments were seen in the paper. What did the figurse imply? Do they just want to provide the experimental data and ask the readers to make analysis and comments? (8) The XRD figures should be combined into one diagram so as to more directly reflect the evolution of crystallization with the annealing temperature. No need to use four figures; (9) I have doubt on the reversibility of the gasochromic sensors based on $PdCl_2$ doped WO_3, and the authors did not comment on whether the sensor could restore its original data by flushing with air. What is the meaning of the change in transparency of sensors by flushing with oxygen for 1 min? This should not be regarded as a measure of response time and response magnitude. **(10)** What is the function of $PdCl_2$ doping? The authors did not explain clearly the sensing	

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	mechanism of$PdCl_2$ doped WO_3.	
Minor REVISION comments		
Optional/General comments		

Note: Anonymous Reviewer