SCIENCEDOMAIN *international*
www.sciencedomain.org

SDI Review Form 1.6

PART 1:

Journal Name:	Physical Review & Research International
Manuscript Number:	**MS: 2013_PRRI_3199**
Title of the Manuscript:	THE CONVERGENCE OF NORMALIZED VEHICULAR ROLLING FRICTION COEFFICIENT (C_m) BY DYNAMIC HIGH SPEED IMAGING AND LEAST SQUARE OPTIMIZATION TECHNIQUES.

General guideline for Peer Review process is available in this link:
(http://www.sciencedomain.org/page.php?id=sdi-general-editorial-policy#Peer-Review-Guideline)

- This form has total 9 parts. Kindly note that you should use all the parts of this review form.

SDI Review Form 1.6

PART 2: 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 was interesting and can potentially be an invaluable contribution to scientific community of relevant field. However, there are some major flaws need to be modified prior to acceptance. The comments should be well addressed accordingly.** **1. Fig.1 is incorrect. If your experimentations are in asphalt, how could the wheel penetrate into the surface? That is the deformation of ground in Fig 1b is in paradox with a rigid surface. More, ensure that you have incorporated all acting forces in the Fig. 1. Rolling resistance is missing as well as gross traction force of wheel and net traction force (subtraction of grass traction from rolling resistance). These aspects are missing.** **2. The general experimental attitude in measuring rolling resistance force is to use dynamometer or load cells to measure the rolling resistance force. Since you selected aero-dynamical methodology, in the equation of** $\sum F = F_{Supplied} - F_{Drag} - F_{Rolling\ Resistance}$ **You already have two non-defined values. You measured F_{drag} by the corresponding equation from air velocity and the air resistive force, yet you should well define the measurement of $F_{supplied}$.** **3. In equation of**	

	$F_{rolling} = C_{rr} W_{car} \overline{V}$ **Which you repeatedly used it, it is in paradox with many of papers describing that rolling resistance is independent of velocity (e.g. Coutermarsh, Barry. "Velocity effect of vehicle rolling resistance in sand." *Journal of Terramechanics* 44.4 (2007): 275-291.). Rolling resistance in its essence is the energy required to deform the surface (except of rigid surface) or deflect the tire. Loading, dynamic load, inflation pressure and contact area can all affect the rolling resistance but during constant velocity, acceleration and de-acceleration there is no change in the required energy to deflect the tire to move. How do you justify this aspect?** **3. Since you had trials for your experimentations, you should make statistical analysis of ANOVA to reveal the effect of each variable on output parameter.**	

Minor REVISION comments	The language of paper is poor, particularly its English structure. In Materials and methods, the sentences should be simple past not simple present. In academic writing for journals, it is better to use passive sentences rather than active sentences. More, there are casual typographical mistakes throughout the paper. Amend them properly.	
Optional/General comments		

Reviewer Details:

Name:	**Hamid Taghavifar**
Department, University & Country	**Department of Mechanical Engineering of Agricultural Machinery, Urmia University, Urmia, Iran**