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International Journal of Heavy Vehicle Systems  
Volume 19, Issue 4, October 2012, Pages 407-426

## Intelligent air-cushion tracked vehicle performance investigation: Neural-networks (Article)

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### Abstract

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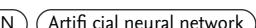
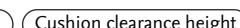
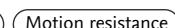
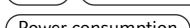
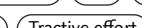
Intelligent Air-Cushion Tracked Vehicle (IACTV) is intended as an alternative to conventional off-road vehicles, which are driven by track system and air-cushion system. To make IACTV as efficient as possible, proper investigation of vehicle performance is essential. However, most relevant factors that affect the competitive efficiency of the air-cushion tracked vehicle are the tractive effort, motion resistance and power consumption. Therefore, an Artificial Neural-Network (ANN) model is proposed to investigate the vehicle performance. Cushion Clearance Height (CH), and Air-Cushion Pressure (CP) are used at the input layers while Power Consumption (PC), Tractive Effort (TE) and Motion Resistance (MR) are used at the output layers. Experiments are carried out in the field to investigate the vehicle performance and compared with the results obtained from ANN. Copyright © 2012 Inderscience Enterprises Ltd.

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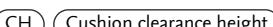
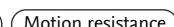
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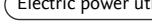
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