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Thermodynamic Evaluation of Compressed Air Storage Engine

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ABSTRACT:

The present paper deals with thermodynamic analysis of a novel compressed air storage engine. A vaned type air turbine is considered as an alternative to the internal combustion engine for light duty automobiles. This novel air engine has a vaned air turbine run on compressed air and light vehicles having such engines will function as zero pollution vehicles (ZPV). The performance of vaned air turbine depends primarily upon number of vanes and thermodynamic state of air at inlet, exit and secondly upon the mechanical arrangements in the turbine.

Here thermodynamic modelling of this air turbine is carried out for various independent parameters and the analysis has been presented.