

Design and Fabrication of Electric Bicycle

Sandesh Bandu Gholap¹, Arman Aspak Chaughule², Vaibhav Uttam Aher³,

Sanket Madhukar Kadne⁴, Prof. Zadokar A.A.⁵

Department of Electrical Engineering^{1,2,3,4,5}

Samarth Polytechnic, Belhe, Maharashtra India

Abstract: *The main aim of this review paper is to present the idea of harnessing the various energy and use it in today's existence of human life. Now-a-days there are so many vehicles on road, which consumes more fuel and also hazards our environment. It is our responsibility to reduce the consumption of fuel and its hazardous emission products. Taking this into consideration it is our small step towards reducing the use of more fuel consuming vehicles and attract the eye of people towards its alternatives i.e. Electric bicycle. So we intend to design a cycle which would run on an alternative source and also reducing human efforts called as Battery Operated Cycle. In this paper we design an alternative mode of transport for betterment of social and environment.*

There is growing demand for Electric Motor Bicycle in India as there will be less air pollution, lower maintenance cost and reduced noise using Electric Motor Bicycle. The motive of this research work is to design a simple, cost-effective model of Electric Motor Bicycle with intelligent controller. The Electric Motor Bicycle is consisting of motor, battery and controller. In this BLDC motor is fixed in the rim of the rare wheel. The controller is connected to the motor and battery to control speed of motor and current. The Electric Motor Bicycle can be run with battery charge and also by pedalling. ELECTRIC BIKE SIMULATOR was used to generate the simulation results. The results of the experiments are also shown in a hardware assembly kit

The main aim of this review paper is to present the idea of harnessing the various energy and use it in today's existence of human life. Now-a-days there are so many vehicles on road, which consumes more fuel and also hazards our environment. It is our responsibility to reduce the consumption of fuel and its hazardous emission products. Taking this into consideration it is our small step towards reducing the use of more fuel consuming vehicles and attract the eye of people towards its alternatives i.e. Electric bicycle. So we intend to design a cycle which would run on an alternative source and also reducing human efforts called as Battery Operated Cycle. In this paper we design an alternative mode of transport for betterment of social.

Keywords: PMDC Motar, Controller, Battery, Charger

REFERENCES

- [1]. Design and Experimental Study of Solar Hybrid Bicycle: 6th National Conference RDME 2017, 17th-18th March 2017
- [2]. Chetan Mahadik, Sumit Mahindraka, Prof. Jayashree Deka, "An Improved & Efficient Electric Bicycle system with the Power of Real-time Information Sharing", 2014.
- [3]. D. M. Sousa, P. J. Costa Branco, J. A. Dente, Electric bicycle using batteries and Supercapacitors, 2007.
- [4]. Arun Eldho Alias¹, Geo Mathew², Manu G³, Melvin Thomas⁴, Praveen V Paul⁵, Energy Efficient Hybrid Electric Bike with Multi-Transmission System, 2015.
- [5]. R. Krishnan, Electric Motor Drives, Prentice Hall, Englewood Cliffs, NJ, 20012.
- [6]. T. Hägglund and K. J. Åström, "Revisiting the Ziegler Nichols Tuning Rules for PI Control - Part II," Asian Journal of Control, Vol. 6, No. 4, pp. 469-482, December 2004