

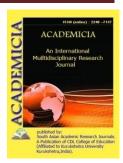
ISSN: 2249-7137 Vol. 11, Issue 10, October 2021 Impact Factor: SJIF 2021 = 7.492



ACADEMICIA

An International Multidisciplinary Research Journal

(Double Blind Refereed & Peer Reviewed Journal)



DOI: 10.5958/2249-7137.2021.02366.1

A BRIEF REVIEW ON THE INTELLIGENT BRAKING SYSTEM

Harish Kumar*

*Faculty of Engineering, Teerthanker Mahaveer University, Moradabad, Uttar Pradesh, INDIA Email id: harish.engineering@tmu.ac.in

ABSTRACT

Using the built-in system architecture, the braking mechanism was developed and integrated to the vehicle to guarantee the safety of the driving phase. The majority of crashes occur as a result of the driver's failure to apply the brakes in a timely manner. However, throughout this project's development, the braking mechanism is specified such that the brake should be applied depending on the ultrasonic sensor and the vehicle's speed. Cars are now equipped with active protection systems to minimize the danger of accidents, which are common in metropolitan areas. The most popular types are Antilock Braking Systems (ABS), Traction Control, and Stability Control. Various kinds of sensors are employed in these gadgets to constantly monitor the vehicle's surroundings and react in an emergency scenario. An ultrasonic wave emitter on the vehicle's front side is used in the intelligent braking system. Furthermore, the receiver is mounted on the vehicle's front end and receives a reflecting ultrasonic pulse. The distance between the problems and the vehicle is determined by the reflected wave (detected pulse), while the car's speed is determined by the RPM counter. The microcontroller assists the identification pulse information in shifting the foot lever to apply the brake to the automobile, which is unexpected for safety reasons.

KEYWORDS: ABS, brake, Hydraulic Brake, Intelligent, Microcontroller, Sensor,

REFERENCES

- **1.** M. A. Hannan, F. A. Azidin, and A. Mohamed, "Hybrid electric vehicles and their challenges: A review," *Renewable and Sustainable Energy Reviews*. 2014, doi: 10.1016/j.rser.2013.08.097.
- 2. D. W. Harless and G. E. Hoffer, "The antilock braking system anomaly: A drinking driver

problem?," Accid. Anal. Prev., 2002, doi: 10.1016/S0001-4575(01)00030-6.

- **3.** N. Ghaviha, J. Campillo, M. Bohlin, and E. Dahlquist, "Review of Application of Energy Storage Devices in Railway Transportation," 2017, doi: 10.1016/j.egypro.2017.03.980.
- **4.** H. Inoue, P. Raksincharoensak, and S. Inoue, "Intelligent driving system for safer automobiles," *J. Inf. Process.*, 2017, doi: 10.2197/ipsjjip.25.32.
- **5.** B. Singh and A. Gupta, "Recent trends in intelligent transportation systems: a review," *J. Transp. Lit.*, 2015, doi: 10.1590/2238-1031.jtl.v9n2a6.
- **6.** A. A. Aly, E.-S. Zeidan, A. Hamed, and F. Salem, "An Antilock-Braking Systems (ABS) Control: A Technical Review," *Intell. Control Autom.*, 2011, doi: 10.4236/ica.2011.23023.
- **7.** A. Zear, P. K. Singh, and Y. Singh, "Intelligent transport system: A progressive review," *Indian J. Sci. Technol.*, 2016, doi: 10.17485/ijst/2016/v9i32/100713.
- **8.** S. J. Clegg, "A Review of Regenerative Braking Systems," *Inst. Transp. Stud. Univ. Leeds*, 1996.
- **9.** R. Risse, "Lösungen für Anhängefahrzeuge für den Ökonomischen Transport und Erhöhung der Verkehrssicherheit," *VDI Berichte*, 2009.
- **10.** S. P. Hire, A. A. Ansari, S. S. Darekar, P. K. Patil, and B. S. Vikhe, "Review Paper on Intelligent Braking System," no. May, pp. 468–471, 2010.