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Underwater-Communication using IR LED

Sumaiya MN¹, Keerthy S², Harshith V³, Abhijith B M⁴, Gaurav B⁵

Associate Professor, Department of ECE¹ Students, Department of ECE²⁻⁵ Dayananda Sagar Academy of Technology & Management, Bangalore, India

Abstract: This paper investigates the design, implementation, and evaluation of an infrared (IR) LED and TSOP-based communication system for submerged environments. System performance is assessed based on range, signal strength, and data transfer rate. The results indicate that this IR-based approach offers a reliable and efficient alternative to acoustic methods for short-range underwater communication, particularly in clear water conditions. Additionally, the findings suggest potential applications in remote underwater sensor networks and real-time data transmission for underwater vehicles. Future research will focus on enhancing the system's range and noise tolerance, further establishing its viability for underwater communication.

Keywords: Communication, Underwater, Infra-Red, LED





525