

Free Space Optics Communication for Navy Surface Ship Platforms



Free Space Optics (FSO) technology is an alternative broadband technology, which provides fast, secure and reliable data transmission. The FSO systems are being used for commercial systems between fixed sites and are being considered for military systems because of their inherent benefits, which are security and high data rates. In military communications security is the first priority. The small divergence of the laser beam makes FSO systems more secure than the existing radio frequency (RF) based wireless systems, because it is highly difficult to detect and intercept a laser beam due to the nature of the laser and the small divergence angle of the transmitter. However, FSO implementation on mobile platforms such as ships is still challenging. This thesis analyzes the feasibility of deploying FSO system on navy surface ships. It discusses the FSO technology and the latest studies in maritime optical communication links. In addition, the benefits and challenges of FSO technology specific to this study are studied. The final section discusses the required systems to improve the performance of FSO systems on ships. The thesis concludes that FSO technology, while not ready for deployment, looks very promising for the near future.

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Optical Networking Best Practices Handbook - Google Books Result bandwidth, deployable Free-Space Optics (FSO) system that could be used to Oguzhan, Free Space Optics communication for Navy surface ship platforms., **The Future of Naval Communications - Naval Technology** DISTRIBUTION CODE Free Space Optical (FSO) communications use [93] O. Timus, Free space optic communication for navy surface ship platforms, M.S. **Naval Applications for LiFi: The Transmitting Tool** There is increasing interest in free space optical communications (FSOC) as an During this trial an eye-safe, free space optical ship-to-shore communications link was .. space optical

communication offers several potential benefits for Naval platforms. between surface vessels, as well as between a surface vessel and **Images for Free Space Optics Communication for Navy Surface Ship Platforms** Aug 10, 2016 Naval Applications of Tech Written by Terence Bennett, Naval Applications of to control externally emitted light at sea make ships a great platform for LiFi. Charles Casey, Free Space Optical Communication in the Military for Articles: What Should the U.S. Navys Next Future Surface Combatant Be? **Free Space Optics Communication for Navy Surface Ship Platforms** AbstractFree space optical (FSO) communication has enjoyed a renewal of interest driven communication with platforms that would otherwise not be able to support including on Navy ships at sea, a link to an explosive ordnance disposal (EOD) . all containing a mirrored surface onto which light is focused. Several **Free Space Optical communication in the military** - Sep 16, 2016 Chair: Jacob Walker, Naval Surface Warfare. Center DD (U) RF/HPM Vessel Stopping Project Updates. (Un/E). 1430 (U) Laser Weapon Systems for DoD Platforms (A). Sean Ross Free Space Optical Communications I. **Mobile Free Space Optical Communication System** (FSO). The system is designed for mounting on mobile platforms, with effective range a FSO system for a mobile system such as remotely operated-vehicles or between ships. .. Communications for Next-generation Military Networks, IEEE **Link Performance Analysis of a Ship-to-Ship Laser Communication** Free space optical communication links in a marine environment for the Navys investment in a network infrastructure for high altitude tactical to be evaluated for different platforms such as ship-to-ship, airborne-to-ship, Near surface horizontal links required for ship-to-ship communications will be described in detail. **Free Space Optics Communication for Navy Surface Ship Platforms** Free Space Optics, FSO, Laser Communications. 16. PRICE This is attributed to the fact that military platforms are largely mobile, while the progress in the planes, ships, or satellites where the FSO terminal should be placed. This study **Free space optic communication for Navy surface ship platforms** communications systems and analyzes the suitability of FSO as a military .. a surface ship and an airborne platform and for ship-to-shore communications. **DIRECTED ENERGY PROFESSIONAL SOCIETYDIRECTED** Suitability of Free Space Optical Communication in Military .. between a surface ship and an airborne platform and for ship-to-shore communications. **Maritime Laser Communications Trial 98152-19703 Free space optic communication for Navy surface ship platforms** Free Space Optical (FSO) communications use modulated collimated light energy, distances, in harsh environments, and on dynamic platforms still demand a very [93] O. Timus, Free space optic communication for navy surface ship. **Free Space Optical Communication Links in a - ResearchGate** Free Space Optics, FSO, Laser Communications. 16. PRICE This is attributed to the fact that military platforms are largely mobile, while the progress in the planes, ships, or satellites where the FSO terminal should be placed. This study **Suitability of free space optical communication in military environments** Free Space Optics (FSO) technology is an alternative broadband technology, which provides fast, secure and reliable data transmission. The FSO systems are **BAA 09-018 High-Bandwidth Free-Space Lasercomm - MONTEREY, CALIFORNIA. THESIS. FREE SPACE OPTIC COMMUNICATION FOR NAVY. SURFACE SHIP PLATFORMS** by. Oguzhan Timus. March 2004. **Free space optics communication for mobile military platforms** Free Space Optical Communication Links in a Marine Environment on (CLAIME), for the Navys investment in a network infrastructure for high altitude tactical layer to be evaluated for different platforms such as ship-to-ship, airborne-to-ship, Near surface horizontal links required for ship-to-ship communications will be **Free Space Optic Communication for Navy Surface Ship Platforms** Jun 16, 2010 Free-space optical (FSO) communication links provide The expendable untethered buoys can be launched from a submarine, aircraft or surface vessel. radar and communications functions on future naval platforms. **Modulating Retro-reflector Lasercom Systems at the Naval** Free Space Optics (FSO) technology is an alternative broadband technology, which provides fast, secure and reliable data transmission. The FSO systems are **Free Space Optics Communication for Navy Surface Ship Platforms** 6 sept. 2012 Free Space Optics Communication for Navy Surface Ship Platforms (Consultez la liste Meilleures ventes Optics pour des informations **Free space optic communication for Navy surface ship** - surface conditions) that affect lasercom link budget are investigated. The link budget takes into NAVAL POSTGRADUATE SCHOOL. March 2012 means is known as free space optical communications (FSOC). FSOC presents an infeasible or when the FSOC system is mounted on moving platforms. The introduction. **Free space optic communication for Navy surface ship platforms** TITLE AND SUBTITLE: Free Space Optics Communication for Navy. Surface Ship Platforms. 6. AUTHOR(S) Oguzhan Timus. 5. FUNDING NUMBERS. 7. **Free Space Optics Communication for Mobile Military Platforms** Satellites use such systems today to communicate with each other. Another potential military application for free-space optical networks would be Such a system would channel data through a backbone of aircraft and ships, One of the first affordable backplane optical interconnects was Agilent Labs PONI platform. **20th International Command & Control**

Research - DoD CCRP MONTEREY, CALIFORNIA. THESIS. FREE SPACE OPTIC COMMUNICATION FOR NAVY. SURFACE SHIP PLATFORMS by. Oguzhan Timus. March 2004. Further calculations showed that the FSO link could be established over a Oguzhan, Free Space Optics communication for Navy surface ship platforms,.