



TEAM 15 - LASERTRAC

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As the radio spectrum becomes more crowded, interference has become an increasingly urgent problem. Wireless Optical Communication (WOC) has emerged as an attractive alternative to radio communication, since it can be aimed at a specific point. Currently WOC is used between stationary objects in many cities, where the transmitter is often mounted on top of skyscrapers to ensure clear line-of-sight. However, WOC with moving targets is still being researched.

The goal of our project is to maintain two-way WOC with an Unmanned Aerial Vehicle (UAV). In order to accomplish this goal, the problem of tracking a moving object must be solved. We intend to use the laser used for communication to track the UAV. While both WOC and laser tracking are well researched, there is little prior work focused on accomplishing both communication and tracking with one laser device. Potential applications for our project include providing internet access to disaster areas, drone racing, and air traffic control.