**DISASTER RESPONSE ROVEREQUIPPED WITH ACOUSTIC THROWABLES**

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**ABSTRACT:**

This project proposes the design and implementation of a UGV (Unmanned Ground Vehicle) for the purposes of USAR (Urban Search and Rescue). The proposed UGV is remotely operated by a driver for investigation and marking locations of interest in buildings, mines and other urban structures after a disaster or calamity.

The applications of USAR UGVs range from testing structural integrity of buildings to searching for victims in unsafe and unstable spaces. The mobile robot offers an increased level of safety and information to the disaster response team which has to carry out its activities. This requires an element of reliability and fast deployment from the rover.

The disaster response rover has been designed for this very purpose which can tread undulated urban environments and works with RF (Radio Frequency) communication for larger range and reduced latency. The rover carries multiple small acoustic devices which can be deployed independently and used for marking points of interest.

With reference from previous works the rover is designed to be robust to environmental difficulties. It is idealized for easy setup and deployment within minutes for operation. The rover may be modified in future instances with powerful RF equipment to increase range of operation.

Minor changes in the rover can be made to use it in water logged areas in cases of flood. The rover can also co-operate with UAVs (Unmanned Aerial Vehicles) to deploy it in spaces which are inaccessible to humans but require close ground observations.