Bhumastra "Unmanned Ground Vehicle"

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Abstract : Terrorism and insurgency are significant global issues that require constant attention and effort from governments and scientists worldwide. To combat these threats, nations invest billions of dollars in developing new defensive technologies to protect civilians. Breakthroughs in vehicle automation have led to the use of sophisticated machines for many dangerous and critical anti-terrorist activities. Our concept of an "Unmanned Ground Vehicle" can carry out tasks such as border security, surveillance, mine detection, and active combat independently or in tandem with human control. The robot's movement can be wirelessly controlled by a person in a distant location or can travel to a pre-programmed destination autonomously in situations where personal control is not feasible. Our defence system comprises two units: the control unit that regulates mobility and the motion tracking unit. The remote operator robot uses the camera's live visual feed to manually operate both units, and the rover can automatically detect movement. The rover is operated by manpower who controls it using a joystick or mouse, and a wireless modem enables a soldier in a combat zone to control the rover via an additional controller feature.

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