

COLLISION FREE SOLAR POWER REMOTE CONTROL CAR

Prepared by: Ali Shareef Moosa, Lim Sue Xian, Ling Sing Hsiung, Soh Zhung Khay

ABSTRACT

Solar-powered vehicles (SPV's), such as cars, boats, bicycles, and even airplanes, use solar energy to either power an electric motor directly, and/or use solar energy to charge a battery, which powers the motor. They use an array of solar photo voltaic (PV) cells (or modules made of cells) that convert sunlight into electricity. The electricity either goes directly to an electric motor powering the vehicle, or to a special storage battery. The PV array can be built (integrated) onto the vehicle body itself, or fixed on a building or a vehicle shelter to charge an electric vehicle (EV) battery when it is parked. Other types of renewable energy sources, such as wind energy or hydropower, can also produce electricity cleanly to charge EV batteries.

SPV's that have a built-on PV array differ from conventional vehicles (and most EV's) in size, weight, maximum speed, and cost. The practicality of these types of SPV's is limited because solar cells only produce electricity when the sun is shining. Even then, a vehicle completely covered with solar cells receives only a small amount of solar energy each day, and converts an even smaller amount of that to useful energy. At present, most SPV's with built-on PV arrays are only used as research, development, and educational tools, and/or to participate in the various SPV races held around the world.