

Air Powered Rotating Steered Car

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Independent short-distance transportation with light utility vehicles is getting increasingly popular. Vehicle manufacturers are creating vehicles powered by alternative energies because of the high cost and pollution of gasoline and diesel. Engineers are focusing their efforts on using air as an energy source to power light utility vehicles. Compressed air can be used to store energy in a way that is not only effective and healthy but also cost-effective. The lack of torque produced by the "engines" and the high expense of air compression were the main issues with compressed air cars. Compressed air vehicles are currently being developed by a number of businesses, and while they have many benefits, there are still significant barriers to be overcome. In the other case, whether a car is front-wheel drive, rear-wheel drive, or all-wheel drive, it still moves primarily with the help of a two wheel steering system in modern times. However, because of their great performance and stability, four-wheel steering vehicles are being employed more frequently as a result of increased safety awareness. The performance of a four-wheel-steered vehicle model that is optimally controlled during a lane change manoeuvre is taken into account in this research. These conditions are low speed manoeuvre, medium-speed manoeuvre, and high-speed manoeuvre. The rear wheels are controlled via four-wheel steering. The rear wheels steer in the opposite direction from the front wheels during parking and low-speed manoeuvres, enabling sharper bends. The rear wheels steer in the same direction as the front wheels at higher speeds. As a result of the front wheels not having to drag the non-steering rear wheels into the path, there is increased stability and less body lean during fast lane changes and curves. This paper effectively explains both design ideas.

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