

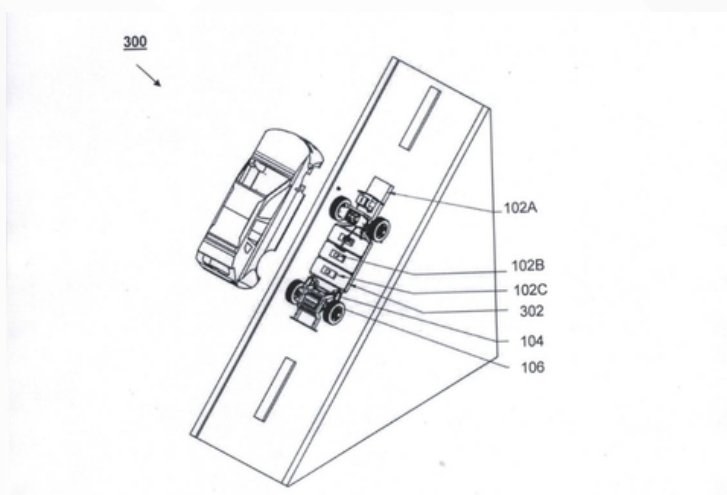
SYSTEM AND METHOD FOR OPTIMIZING TORQUE

Seeking parties interested in licensing and commercialization of technology.

Technology Brief

An adaptive torque control system and method engineered to dynamically optimize electric vehicle (EV) motor performance, stability, and traction across diverse driving conditions. Featuring an integrated multi-sensor suite, processing unit, and motor actuator, the system continuously monitors key operational variables—including road surface friction, pitch and roll inclination angles, battery state-of-charge (SOC), vehicle speed, and cargo load. By calculating real-time wheel slip ratios from wheel and ground speeds, the processing unit applies a dynamic torque compensation strategy to prevent wheel slippage on steep or slippery terrain.

Block Diagram



Technical Applications

This technology enhances electric vehicle (EV) safety and performance across demanding driving environments, including steep inclines and low-friction road surfaces. By dynamically controlling motor torque and mitigating wheel slip in real time, it provides essential traction management for personal, commercial, and off-road electric vehicles, ensuring vehicle stability.

Salient Features

- ✓ Multi-Parameter Dynamic Traction Control
- ✓ SOC & Load-Aware Power Management
- ✓ Real-Time Operational Monitoring

Glimpse of the Technology



REFERENCE NUMBER

iTNT-TECH-0179



TECHNOLOGY SECTOR

Automobile, Auto-components & EV



IP STATUS

Patent Granted



APPLICATION NUMBER

202541020553



TECHNOLOGY READINESS LEVEL

TRL - 3

**Tamil Nadu Technology
Transfer Facilitation Centre
(TNTFC)**

Mr. G. Daniel Prabhakaran, RTTP
Associate Vice President - iTNT

 tnttfc@tnthub.org

 +91 91766 08820

 <https://techtransfer.itnthub.tn.gov.in/>