

Tilt Control System using Active Torsion-Bar with Improved Fail-safe Performance

Akihito KAZATO Takashi KOJIMA Kotaro ISHIGURI Tomoyoshi IDE

The authors are developing a tilt control system with the active torsion-bar (ATB), which consists of an electric rotary actuator and a torsion bar. In the previous research, we have confirmed the basic tilting performance using the prototype system and the bogie and identified some problems for practical use. This paper firstly proposes the tilt mechanism and the carbody suspension system that take fail-safe performance into consideration. Then, bench test results demonstrate that the system has good control performance, and the ATB does not lose the stiffness when the control fails. Finally, we propose the specification of the tilt control system for practical use.