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Sommario/riassunto	This book details the advanced actuators for IEVs and the control algorithm design. In the actuator design, the configuration four-wheel independent drive/steering electric vehicles is reviewed. An in-wheel two-speed AMT with selectable one-way clutch is designed for IEV. Considering uncertainties, the optimization design for the planetary gear train of IEV is conducted. An electric power steering system is designed for IEV. In addition, advanced control algorithms are proposed in favour of active safety improvement. A supervision mechanism is applied to the segment drift control of autonomous driving. Double super-resolution network is used to design the intelligent driving algorithm. Torque distribution control technology and four-wheel steering technology are utilized for path tracking and adaptive cruise control. To advance the control accuracy, advanced estimation algorithms are studied in this book. The tyre-road peak friction coefficient under full slip rate range is identified based on the normalized tyre model. The pressure of the electro-hydraulic brake system is estimated based on signal fusion. Besides, a multi-semantic driver behaviour recognition model of autonomous vehicles is designed using confidence fusion mechanism. Moreover, a mono-vision based lateral localization system of low-cost autonomous vehicles is proposed with deep learning curb detection. To sum up, the discussed

advanced actuators, control and estimation algorithms are beneficial to the active safety improvement of IEVs.