The book intends to convey mechanical fundamentals of electric railway propulsion, which includes rail-bound guidance, transmission of traction effort from wheel to rail under the influence of non-constant levels of adhesion and the transmission of motor torque to a spring-mounted and thus swaying drive wheelset. The focal point of the book will be the disposition of electric traction units powered by three-phase induction motors. We shall discuss the stationary and dynamical behaviour of the squirrel-cage induction motors and the principle and construction features of pulse-controlled inverters, as well as scalar and field-oriented control systems and four-quadrant power converters, feeding the DC link of the inverters. As is appropriate to the lesser importance these drive systems have nowadays, we will consider DC and AC commutator motors only in a cursory fashion, as well as their voltage control. Since the specific railway energy supply network being either separate from or connected to the national power utility is a key factor in operating electrical railway...