

Development of a New Skid Control Method Using a New Detection Algorithm

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Reducing the braking distance is very important for the improvement of the safety of a railway system. However, increasing braking force to realize it often causes a wheel slip under the wet condition because adhesion force between a wheel tread and a rail governs the brake performance. If a wheel slip has reached the lock, a flat spot will be generated on the tread. It damages not only a car body but also a track. Therefore, many methods called “Anti-skid(Anti-lock) Brake System”, “Wheel Slip Prevention system”, etc., have been developed and are performing reducing a braking distance and protecting a wheel tread simultaneously. In this paper, we propose a new skid control method using a new algorithm to detect a wheel slip for achieving a higher performance than the current systems. We also show the effectiveness of the proposed method by means of on-track tests.