

Image Analysis Engine for Supporting Onboard Track Patrol

Shuhei KONNO Kyohei KAWASAKI Kengo MISHIMA
Masashi MIWA Atsushi SHIMIZU Noboru NAKAJIMA

One of the maintenance works of railroad tracks is patrolling by the eyes of workers from a driver's compartment of a train in operation. To support such works, an image analysis engine has been developed. The engine consists of three image analysis techniques: self-localization, 3D measurement by multi-view stereo, differential detection, and can automatically detect the presence of obstacles intruding a structure gauge and environmental changes on a railroad track. In this paper, an overview of the system with the image analysis engine and processes of each image analysis techniques are described.