Vehicle Speed Updating Throughout Navigation on Rough Surfaces

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Abstract. Robot autonomous navigation is an issue of top interest because applicability to terrain exploration missions. Successful autonomous navigation on outdoors terrains demands to identify the terrain textures, such that based on these data the navigation system should decide if the robotic device is able to climb/descend hills or holes according to their inclination or size, or surround the peripheral line around them. In this work the terrains data about soft irregularities and textures are used by a wheeled-robot to adapt velocity such that it safely navigates without suffer slides. Actually, robot moving is as fast as possible regarding the navigation terrain roughness. A fuzzy neural network computes the proper velocity up to the irregularity slope and texture estimation.