

Artificial Visual Landmark와 RFID를 이용한 이동로봇의 위치보정

박희환*(한양대 원) · 문승욱(한양대 원) · 송성호(한양대 원)
지용관(한양대 원) · 박장현**(한양대)

Location Correction of Mobile Robot using Artificial Visual Landmark and RFID

Hee Hwan Park*, Seung Wuk Moon, Seong Ho Song, Yong Kwan Ji
and Jhang Hyon Park**

Key Words: RFID, Pose Estimation(자세추정), Mean Shift(중심이동), Visual Landmark(가시지표)
Abstract : To correct the relative location of an autonomous mobile robot, this paper proposes the location correction method using a single camera and an artificial visible polyhedron landmark with a RFID tag and its location with respect to the indoor environment is fixed. To achieve the purpose, the proposed algorithm should process the following 3 steps. At the first step, a robot rotates its RFID antenna to detect the direction angle which is the direction of the identified tag. At the second step, the algorithm applies Continuous Adaptive Mean Shift(CAMShift) method to extract the coordinates of feature points of the

Foot adjusting motion on Irregularly Protruded Uneven Surface for Biped Robots

Eung Seo Kim, Jong Hyeon Park

불규칙하게 돌출된 비평탄면에서의 이족보행 로봇의
환경적응 보행

김응서†(한양대) · 박종현*(한양대)

Key Words: irregularly protruded uneven surface (불규칙하게 돌출된 비평탄면), foot adjusting motion (발의 적응 거동), landing phase(LP, 착지 구간).

Abstract : This paper proposes the control method for walking of biped robots on geometrically realistic uneven surface with irregular protrusions. The focus is to maintain the robot's stability performing leg motions successively in order to adapt the sole to uneven terrain. A foot has 15 force sensors at regular intervals which fit into the 5*3 terrain matrix whose elements mean the height of the protrusions. The control strategy of landing phase(LP) is to form a larger and appropriately located polygon between foot and ground. Computer simulations of 28-degree-of-freedom biped robot with the 6-DOF environment model show that the stable compliant locomotion on the uneven surface are achieved by the proposed method.