Simulation and test in engineering applications of stereoscopic image processing

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The seminar presents three engineering applications of stereoscopic image processing: measurement of alignment angles of automotive wheels, dimensional verification of a hot forged automotive component (crankshaft) and odometry estimation in robotic navigation. Tests in a 3-D solid model simulator, allow the development and evaluation of performance of the image processing techniques used in all applications. The combination of 3-D modeling and dynamics simulation poses as a powerful tool to the development of robust stereoscopic applications of engineering measurements and robotic navigation.

Paulo Kurka is a professor at the Faculty of Mechanical Engineering at the São Paulo State University at Campinas – UNICAMP, active in the areas of dynamics and vibration of mechanical systems, signal and image processing. Paulo Kurka was an undergraduate and MsC student in Mechanical engineering at the Catholic University of Rio de Janeiro – PUC-RJ, Brazil. He obtained his PhD from the University of Manchester in 1989, was a visiting fellow at the Technion in 1994-1995 and FEUP-Portugal in 2003.