



THE RESEARCH ON CAB SIMULATOR OF QUAY CRANE CONTAINERS ON CLASSICAL WASHOUT ALGORITHM

Xiaowei Shi, Yiteng Xu, YoufangHuang, Houjun Lu

School of Logistics Engineering

Shanghai Maritime University

Shanghai, PR China

Emails: shixiaowei1990@hotmail.com,xytmtu@163.com, yfhuang@shmtu.edu.cn,
smulhj@126.com

Submitted: Oct. 23, 2013

Accepted: Feb. 16, 2014

Published: Mar. 10, 2014

Abstract- The acceleration of the speed of the quay crane for containers has raised a higher demand to the dynamic simulation system which is the key part of the simulator in the coast container crane. So it is very necessary to do this research on it. This essay, aimed at the seat motion system of training simulator in the coast container crane, lays a study on the key points in the design of the proprioceptive simulation algorithm of the bridge crane simulator and proposes the realization method for it. This method can help to find the most proper washout point and optimizes the fixed parameter so as to be able to improve the simulation fidelity by offering a better system. It also establishes the simulation model by MATLAB on the basis of which it operates the simulation calculation and analysis on a group of practical motion data. The result shows that this algorithm provides an effective way for the application of the TDOF simulator.

Index terms: Training Simulator; Proprioceptive Simulation Algorithm; Motion Platform; TDOF.