Seventeenth International Conference on
Geometry, Integrability and Quantization
June 5–10, 2015, Varna, Bulgaria
Ivaïlo M. Mladenov, Guowu Meng
and Akira Yoshioka, Editors
Avangard Prima, Sofia 2016, pp 143–171
doi: 10.7546/giq-17-2016-143-171

ANALYSIS OF THE ERROR FOR HARMONIC TRACKING USING AN ITERATIVE SCHEME IN GEOMETRIC CONTROL

EUGENIO AULISA, DAVID GILLIAM and THANUKA PATHIRANAGE

Department of Mathematics & Statistics, Texas Tech University, 79409 Lubbock, USA

Abstract. Geometric Control Theory was initiated in the beginning of the 1970's and has now become a well established design methodology for problems of tracking prescribed reference signals while rejecting unwanted disturbance signals. In this paper we describe the error analysis for time-dependent harmonic signal tracking for general distributed parameter control systems with bounded input and output operators using an iterative numerical scheme based on the geometric design methodology.

MSC: 93C20, 65Y15
Keywords: Distributed parameter systems, dynamic regulator equations, geometric control, iterative numerical algorithm, regulator problem

CONTENTS