1117-57-307   **James R. Hughes***, One Alpha Drive, Elizabethtown, PA 17022. *Mathematical Models for Voice Leading: Dealing with Doubling.*

Voice leading refers to the interplay of melody and harmony in music. More precisely, voice leading is the specific means by which one harmonic situation changes to another through specific part assignments. Voice leading has been modeled mathematically in various ways. After giving a brief survey of the main approaches, we will focus on the use of paths in chord spaces. In particular, we will explore how the orbifold fundamental group and groupoid of a chord space can be especially useful for modeling voice leading situations in which more than one part is assigned to a given pitch class. (Received January 16, 2016)