
JASON BROWN, Dalhousie University, Halifax, Nova Scotia

A Hard Day's Math: The Connections Between Mathematics and Music

Mathematics and music are a match made in heaven. The ancient Greeks elevated both to the same level, and even the most unschooled rock musician uses more mathematics than he or she realizes. In this talk I'll survey some of the most interesting connections between mathematics and music, including:

- trigonometric identities and tunings
- small fractions and musical intervals
- circular seating arrangements, scales and rhythm guitar
- derivation of the blues and graph colourings
- the musical art of being ambiguous (or not)
- musical and mathematical transformations.

I'll end off the talk with a discussion of some application of mathematics I carried out on some musical mysteries surrounding The Beatles.