

Morita Equivalence of Graph and Ultragraph Leavitt  
Path Algebras  
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*Abstract*

The primary purpose of this thesis is to show every ultragraph Leavitt path algebra is Morita equivalent, as a ring, to a graph Leavitt path algebra. Takeshi Katsura, Paul Muhly, Aidan Sims, and Mark Tomforde showed every ultragraph  $C^*$ -algebra is Morita equivalent, in the  $C^*$ -sense, to a graph  $C^*$ -algebra; our result is an algebraic analog of this fact. Further, we will use our result to give an alternate proof for established conditions which guarantee the simplicity of an ultragraph Leavitt path algebra over a field.