1078-16-240 **Zak Mesyan***, Department of Mathematics, University of Colorado, Colorado Springs, CO 80918.
Commutator rings and Leavitt path algebras.

An associative ring R is said to be a *commutator ring* if $R = [R, R]$, where $[R, R]$ is the subgroup of R generated by its additive commutators. There has been interest in such rings since at least 1956, when Kaplansky asked whether there could be a commutator division ring. To date, few examples of rings with this property have been produced, but it turns out that many such examples can be built using Leavitt path algebras. Commutator Leavitt path algebras have the additional unusual property that all their Lie ideals are (ring-theoretic) ideals. It is also possible to completely classify the commutator Leavitt path algebras, and in the process to describe the commutator subspace $[L_K(E), L_K(E)]$ of the Leavitt path algebra $L_K(E)$, for any field K and directed graph E. (Received December 10, 2011)