

1081-17-160

Samuel H Chamberlin* (samuel.chamberlin@park.edu), Computer Science and Mathematics Department, Park University, 8700 NW River Park Drive, Parkville, MO 64152. *Integral Bases for the Universal Enveloping Algebras of Map Algebras.*

Given a finite-dimensional, simple, complex Lie algebra \mathfrak{g} and A , a commutative, associative algebra with unity over the complex numbers, we exhibit an integral form for the universal enveloping algebra of the map algebra, $\mathfrak{g} \otimes A$, and an explicit integral basis for this integral form. We also produce explicit commutation formulas in the universal enveloping algebra of $\mathfrak{sl}_2 \otimes A$ that allow us to write certain elements in Poincaré-Birkhoff-Witt order. (Received February 09, 2012)