1093-22-280 **Lisa Carbone*** (carbonel@math.rutgers.edu), Department of Mathematics, Hill Center-Busch Campus, 110 Frelinghuysen Rd, Piscataway, NJ 08854. *Simply laced Lie algebras and Kac–Moody algebras with built–in structure constants.* Preliminary report.

Let $\mathfrak{g}$ be a Kac–Moody algebra. We define a Chevalley basis for $\mathfrak{g}$ so that the structure constants with respect to this basis are integers. When $\mathfrak{g}$ is simply laced, we prove the existence of a Chevalley basis that gives an easy formula for computing the structure constants for real root vectors whose sum is real. For symmetrizable and simply laced Kac–Moody algebras, this gives a complete description of the structure constants for their corresponding Kac–Moody Chevalley groups. This also gives an improvement of known 'fast methods' for determining structure constants of finite dimensional simply laced Lie algebras and their Chevalley groups. (Received August 18, 2013)