1126-17-300   **Lisa Carbone***, 110 Frelinghuysen Rd, Hill Center, Piscataway, NJ 08854. *Commutation relations and structure constants for Kac-Moody algebras.* Preliminary report.

In any Kac–Moody algebra $\mathfrak{g}$, the question of determining the commutation relations between real root vectors x_α and x_β corresponding to real roots α and β may be reduced to the rank 2 root subsystem generated by α and β. Then the commutator $[x_\alpha, x_\beta]$ is trivial if the sum $\alpha + \beta$ is not a real root and otherwise lies in the real root space corresponding to $\alpha + \beta$. We completely determine the structure constants between real root vectors in rank 2 Kac–Moody algebras $\mathfrak{g}$. We also describe all possible systems of signs for these structure constants. This requires a knowledge of the root strings containing real roots and the cases where sums of real roots are not real roots. We indicate how to give an algorithm for extending these results to give integral structure constants for root vectors corresponding to imaginary roots. (Received January 16, 2017)