1094-57-100 **Colin Adams*** (cadams@williams.edu), Bronfman Science Center, Williams College, Williamstown, MA 01267, and **Orsola Capovilla-Searle**, **Jesse Freeman**, **Daniel Irvine**, **Samantha Petti**, **Daniel Vitek**, **Ashley Weber** and **Sicong Zhang**. *Multi-crossing Invariants of Knots.*

A multi-crossing is a crossing with n strands of the knot passing straight through it, a classical crossing corresponding to $n = 2$. Every knot has a projection with all n-crossings, so the n-crossing number $c_n(K)$ is well-defined. We determine $c_n(K)$ for many low-crossing knots. We also obtain lower bounds on $c_n(K)$ in terms of the span of the bracket polynomial, generalizing previous results for $n = 2, 3$ and 4. We show $c_n(K)$ is not additive under composition for all $n \geq 4$, and we obtain further results for both the übercrossing number and petal number of knots, which correspond to when there is only a single multi-crossing in the projection. (Received August 14, 2013)