1086-11-508 **Saikat Biswas*** (sbiswas33@math.gatech.edu), School of Mathematics, Georgia Institute of Technology, 686 Cherry Street, Atlanta, GA 30332-0160. *Tamagawa Torsors of an Abelian Variety.*

For an abelian variety A defined over a number field K, we define the Tamagawa torsors of A at a prime v of K to be the set of A-torsors defined over the completion K_v of K at v that are split by an unramified extension. It turns out the set of such torsors is finite, having cardinality equal to the Tamagawa number of A at v (which also prosaically explains the terminology). In this talk, we will discuss some arithmetic properties of the Tamagawa torsors including its relation to the Selmer group and the Shafarevich-Tate group of A, as well as to the Brauer group of K_v. Finally, following Mazur's theory of visibility, we will give conditions under which non-trivial Tamagawa torsors of A may be 'visualized' as Mordell-Weil points on another abelian variety B also defined over K. We will also explain how our visibility theorem provides theoretical evidence for the Birch and Swinnerton-Dyer Conjecture. (Received September 25, 2012)