1003-13-508 **Izuru Mori*** (`imori@brockport.edu`), Department of Mathematics, SUNY College at Brockport, Brockport, NY 14420. *Intersection Multiplicity in terms of Ext-modules.*

Serre defined an intersection multiplicity of two modules by an alternating sum of length of Tor-modules. Years ago, Smith and I defined another intersection multiplicity in terms of Ext-modules instead of Tor-modules, in order to develop intersection theory for noncommutative schemes. In this talk, we will discuss our new intersection multiplicity in commutative situation. For example, we will show that, over a Gorenstein ring, Serre's vanishing conjectures for these two different intersection multiplicities are equivalent. (Received September 17, 2004)