1054-14-53 **Vladimir Baranovsky*** (vbaranovs@math.uci.edu), 340 Rowland Hall, Department of Mathematics, UC Irvine, Irvine, CA 92697. *Deformations of line bundles on coisotropic subvarieties.*

We consider a smooth coisotropic subvariety Y in a smooth algebraic variety X with an algebraic Poisson structure, and a line bundle L on Y. Our first result explains when L admits a first order deformation as a left module over the first order deformation quantization of O_X, and a similar statement for second order deformations. We further explain the relation with bundles that admit an algebraic connection and applications to constructing BV differentials on the Tor and Ext sheaves associated to a pair of smooth coistotropic subvarieties Y and Z. Joint work with Victor Ginzburg and Jeremy Pecharich. (Received August 31, 2009)