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I Gordon (i.gordon@ed.ac.uk), Department of Mathematics, The King's Buildings, Edinburgh University, Edinburgh, EH9 3JZ, Scotland, and **J T Stafford*** (Toby.Stafford@manchester.ac.uk), Dept. of Mathematics, Alan Turing Building, Oxford Road, University of Manchester, Manchester, M13 9PL, England. *Equidimensionality of characteristic varieties over Cherednik algebras.*

Type A Cherednik algebras H_c , which are particular deformations of the twisted group ring of the n -th Weyl algebra by the symmetric group S_n , form an intriguing class of algebras with many interactions with other areas of mathematics. In earlier work the authors proved a sort of Beilinson-Bernstein equivalence of categories, thereby showing that H_c (or more formally its spherical subalgebra U_c) forms a noncommutative deformation of the Hilbert scheme $Hilb(n)$ of n points in the plane. One question that arose in that work was whether the characteristic varieties of irreducible U_c -modules are equidimensional subschemes of $Hilb(n)$.

In this lecture we will prove this conjecture and give various applications. (Received September 18, 2007)