1012-13-138   **Reinhold Huebl** and **Irena Swanson*** (`iswanson@reed.edu`), 3203 SE Woodstock Blvd, Reed College, Portland, OR 97202. *Adjoints of ideals.*

Multiplier ideals have been used in commutative algebra to prove several strong results. One of these is a result of Ein, Lazarsfeld, and Smith that for a prime ideal P in a regular ring arising from a smooth complex quasi-projective variety, if h is the height of P, then for all positive integers n, the (hn)th symbolic power of P is contained in the nth power of P. This was extended to regular rings for all rings containing a field via tight closure by Hochster and Huneke. The question remains if the same result holds in mixed characteristic. Multiplier ideals and tight closure techniques do not help there. Our motivation was to extend these results to mixed characteristic, via adjoint ideals. The definition of adjoint ideals requires infinite intersection, which is a big obstacle in proving a uniform-type result quoted in the beginning. We prove cases where adjoint ideals can be computed via finite intersections, namely by extensions and contractions to Rees valuations. This formulation is in some cases obtained via resolutions of singularities. (Received September 17, 2005)