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Samar M ElHitti* (selhitti@citytech.cuny.edu), 300 Jay street, Namm 602B, Brooklyn, NY 11201. *Formal prime ideals of infinite value and their algebraic resolution.*

Suppose that R is a local domain essentially of finite type over a field of characteristic 0, and ν a valuation of the quotient field of R which dominates R . The rank of such a valuation often increases upon extending the valuation to a valuation dominating \hat{R} , the completion of R . When the rank of ν is 1, Cutkosky and Ghezzi handle this phenomenon by resolving the prime ideal of infinite value, but give an example showing that when the rank is greater than 1, there is no natural ideal in \hat{R} that leads to this obstruction. We extend their result on the resolution of prime ideals of infinite value to valuations of arbitrary rank. This paper is joint work with Dale Cutkosky. (Received August 24, 2009)