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Deirdre Haskell* (haskell@math.mcmaster.ca), Department of Mathematics and Statistics, McMaster University, Hamilton, ON L8P2T4, Canada, and **Yoav Yaffe**. *Geometric ganzstellensätze in theories of valued fields*.

Hilbert's 17th problem (and generalizations) asked for an algebraic characterization of polynomial functions which are non-negative on a definable subset of the reals. The analogous problem on a valued field is to study the functions which are integral on a definable subset of the field. Here, the relevant functions are rational functions, and the question of what it means for a function to be integral at, or near, a point where it is not defined becomes somewhat sensitive. One can also consider the question for the function field of a variety, and not just in affine space. I will talk about some recent results of myself and Y. Yaffe around these questions. (Received August 11, 2008)