Hans Schoutens* (hschoutens@citytech.cuny.edu). *Singular valuations, ideal chains and arrangements.*

How much of a valuation on a Noetherian ring can be recovered from its chain of valuation ideals? Which chains arise and what properties do these have? In answering such questions, we run into singular valuations (of higher rank). The latter also arise as limits of regular valuations (especially in total blowing ups of a fixed valuation). I will describe some preliminary results, mostly in the form of examples. (Received January 18, 2018)