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Roger A. Wiegand* (rwiegand@math.unl.edu), Department of Mathematics, University of Nebraska, Lincoln, NE 68588-0130, and **Sylvia M. Wiegand**. *The partially ordered set of prime ideals in a two-dimensional Noetherian domain*. Preliminary report.

Let R be a two-dimensional integral domain that is finitely generated as a \mathbb{Z} -algebra. Let $\text{Spec}(R)$ denote the partially ordered set of prime ideals of R . R. Wiegand conjectured 25 years ago that $\text{Spec}(R)$ is order-isomorphic to $\text{Spec}(\mathbb{Z}[X])$. We will survey what is known about this conjecture and discuss some recent progress. (Received February 14, 2010)