

1147-13-647

Ela Celikbas, Christina Eubanks-Turner and Sylvia M. Wiegand* (swiegand1@unl.edu),
Department of Mathematics, 202 Avery Hall, University of Nebraska Lincoln, Lincoln, NE
68588-0130. *Prime ideals in rings of power series and polynomials.* Preliminary report.

We describe the partially ordered sets that arise as prime spectra of homomorphic images of commutative Noetherian rings of power series and polynomials of dimension ≤ 2 . Let R be a countable one-dimensional Noetherian domain with infinitely many maximal ideals, let k be a countable field, and let x, y, z be indeterminates. We characterize the prime spectra of $R[y][[x]]/Q$, of $R[[x]][y]/Q$, and of $k[[x]][z, y]/Q$, for Q a height-one prime ideal of the corresponding ring such that $x \notin Q$. The characterization depends on the choice of Q . We may discuss other cases for the ring R . (Received January 27, 2019)