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Christina Eubanks-Turner* (ceturner@louisiana.edu), **Melissa Luckas** and **Serpil Saydam** (saydam@ulm.edu). *Prime Ideals in Birational Extensions of Two-Dimensional Power Series Rings.*

In this article we describe the prime spectrum, the set of prime ideals, for certain two-dimensional polynomial and power series rings. Our main result is the characterization of those partially ordered sets that arise as prime spectra of simple birational extensions of power series rings in one indeterminate with coefficients in a principal ideal domain or in an order in an algebraic number field, where we assume that the coefficient ring has an infinite number of maximal ideals. (Received September 02, 2009)