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K Alan Loper* (lopera@math.ohio-state.edu), Department of Mathematics, Ohio State University - Newark, 1179 University Drive, Newark, OH 43055, and **Francesca Tartarone**.

Compact metric spaces and Prufer domains of polynomials. Preliminary report.

It is well known that the maximal ideals of $\text{Int}(\mathbb{Z})$ containing a given prime p can be naturally indexed by the p -adic integers. Much use has been made of the correspondence between the ideal structure of $\text{Int}(\mathbb{Z})$ and the metric space topology of the p -adic integers. In this talk we extend this correspondence between maximal spectra and compact metric spaces to include all Prufer domains which lie between $\mathbb{Z}[X]$ and $\mathbb{Q}[X]$. (Received September 17, 2008)