1107-05-421 **Joshua Alman*** (jalman@stanford.edu), **Cesar Cuenca** and **Jiaoyang Huang**. *Laurent Phenomenon Sequences.*

We undertake a systematic study of recurrences of the form $x_{m+n}x_m = P(x_{m+1}, ..., x_{m+n-1})$ which exhibit the Laurent phenomenon. Some of the most famous among these sequences come from the Somos and the Gale-Robinson recurrences. Our approach is based on finding period 1 seeds of Laurent phenomenon algebras of Lam-Pylyavskyy. We completely classify polynomials P that generate period 1 seeds in the cases of $n = 2, 3$ and of mutual binomial seeds. We also find several other interesting families of polynomials P whose generated sequences exhibit the Laurent phenomenon. Our classification for binomial seeds is a direct generalization of a result by Fordy and Marsh, that employs a new combinatorial gadget we call a double quiver. (Received January 20, 2015)