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K Alan Loper* (loper.4@osu.edu), 1179 University Drive, Newark, OH 43055. *Directed limits of monoidal quadratic transforms*. Preliminary report.

Let D be a regular local ring of dimension at least three. We consider limits of iterated chains of quadratic transform of D . A central question is to determine when the limit is a valuation ring. We make surprising connections with several areas of elementary number theory. (Received January 15, 2017)