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Natalie Priebe Frank* (nafrank@vassar.edu), Box 248, Vassar College, Poughkeepsie, NY 12604, and **E. A. Robinson, Jr.** *Generalized beta-expansions, substitution tilings, and local finiteness.*

When is a substitution tiling of \mathbb{R}^2 locally finite? In this paper, we were able to prove that if the length expansion is Pisot, then the tiling is locally finite. If the expansion is not Pisot, the tiling may or may not be locally finite. Using an essentially one-dimensional method involving generalized β -transformations, we are able to give a condition under which such a tiling fails to be locally finite. A simple example will be given to illustrate this case. This joint work with E. A. Robinson, Jr. will appear in the Transactions of the AMS. (Received January 09, 2007)