1125-37-1025 **Natalie Priebe Frank*** (`nafrank@vassar.edu`), Box 248, Vassar College, Poughkeepsie, NY 12604, and **E. Arthur Robinson, Jr.**, **Michael Baake** and **Uwe Grimm**. *Towards spectral analysis of self-similar tilings via a renormalization approach.* Preliminary report.

We examine the example of a tiling of the line given by the non-Pisot substitution rule $a \to abbb$, $b \to a$. We describe how, when natural tile lengths are used, the pair correlation functions that determine the diffraction spectrum satisfy easily computable renormalization equations. These equations carry through to the autocorrelation and diffraction measures and therefore can be useful for computing the spectral type of these measures. In our example, the spectral type is known to contain a continuous part and the renormalization approach provides clues to whether this part can be absolutely or singularly continuous with respect to Lebesgue measure. (Received September 14, 2016)