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Piecewise translations derived from an error diffusion algorithm. The case of the constant input.

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Given a polytope one can define the partition of the space into the Voronoi regions of its vertices. Then for a point (input) inside of the polytope a piecewise translation is defined, for any point in a given Voronoi region translate by the vector from the vertex to the input. It seems that for a simplex the minimal absorbing invariant set is a fundamental domain (a tile) for a the lattice generated by the vertices. We prove it for the acute triangles. Moreover each intersection of the invariant set with a Voronoi region is again a tile with respect to a new lattice.