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Xuan Hien Nguyen* (xhnguyen@math.ksu.edu), Kansas State University. *Construction of Self-Translating Surfaces under Mean Curvature Flow.*

It is possible to desingularize a finite family of grim reaper cylinders to obtain embedded self-translating surfaces for the mean curvature flow, provided no three grim reaper cylinders intersect on the same line, and no two have the same asymptotic plane. The strategy is to construct an approximate initial surface by desingularizing the intersection lines with Scherk minimal surfaces, then solve a perturbation problem to find the desired soliton. We discuss the problems encountered with the corresponding linear operator, and how to remedy them by tweaking the initial surface. (Received August 04, 2010)