COMPACT CONSTANT MEAN CURVATURE SURFACES WITH LOW GENUS

KARSTEN GROSSE-BRAUCKMANN AND KONRAD POLTHIER

Abstract. We describe numerical experiments that suggest the existence of certain new compact surfaces of constant mean curvature. They come in three dihedrally symmetric families, with genus ranging from 3 to 5, 7 to 10, and 3 to 9, respectively; there are further surfaces with the symmetry of the Platonic polyhedra and genera 6, 12, and 30. We use the algorithm of Oberknapp and Polthier, which defines a discrete version of Lawson's conjugate surface method.