

1035-53-2006

**Adam G. Weyhaupt\*** ([awayhau@siue.edu](mailto:awayhau@siue.edu)), Box 1653, Department of Mathematics and Statistics, Southern Illinois University Edwardsville, Edwardsville, IL 62026. *On the moduli space of triply periodic minimal surfaces.*

In 1865, Schwarz constructed the first examples of triply periodic minimal surfaces, but up until 1970, all known examples of triply periodic minimal surfaces contained either straight lines or curves of planar symmetry. In 1970, Alan Schoen discovered the gyroid, an embedded triply periodic minimal surface that contains neither straight lines nor planar symmetry curves. Meeks discovered in 1975 a 5-parameter family of genus 3 embedded triply periodic minimal surfaces that contained all known examples of genus 3 embedded triply periodic minimal surfaces except the gyroid. A second example lying outside the Meeks family was proposed by Lidin in 1990.

In this talk, we explain the structure of the moduli space of embedded triply periodic minimal surfaces of genus 3 that admit an order 3 rotational symmetry. The surfaces involved are known continuous families (P, D, H surfaces and the gyroid and Lidinoid families). We will also discuss the limits of these surfaces families. (Received September 21, 2007)