

1058-53-216

**Jeanne N. Clelland\*** ([Jeanne.Clelland@colorado.edu](mailto:Jeanne.Clelland@colorado.edu)), Dept. of Mathematics, 395 UCB, University of Colorado, Boulder, CO 80309-0395. *Totally quasi-umbilic timelike surfaces in  $\mathbb{R}^{1,2}$* . Preliminary report.

For a regular surface in Euclidean space  $\mathbb{R}^3$ , umbilic points are precisely the points where the Gauss and mean curvatures  $K$  and  $H$  satisfy  $H^2 = K$ ; moreover, it is well-known that the only totally umbilic surfaces are planes and spheres. But for timelike surfaces in Minkowski space  $\mathbb{R}^{1,2}$ , it is possible to have  $H^2 = K$  at a non-umbilic point; we call such points *quasi-umbilic*. In this talk I will discuss the classification of totally quasi-umbilic timelike surfaces in  $\mathbb{R}^{1,2}$ ; these surfaces turn out to be much more plentiful than totally umbilic surfaces, and their classification features a surprise appearance by Liouville's equation! (Received February 15, 2010)