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Jeanne N. Clelland* (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)