1134-53-379 **Peter Smillie*** (smillie@math.harvard.edu), 6 7th St, Cambridge, MA 02141. *Weingarten foliations of three dimensional Lorentzian spaceforms.* Preliminary report.

Given a parametrized curve $(a(t), b(t), c(t))$ in $\mathbb{R}^3$, we consider foliations of a three-dimensional Lorentzian spaceform M by spacelike surfaces Σ_t whose principle curvatures satisfy the Weingarten equation $a(t)\kappa_1\kappa_2 + b(t)(\kappa_1 + \kappa_2) + c(t) = 0$. Foliations of M by constant mean curvature surfaces (that is, $a = 0$) are a well-studied model for the long-time behavior of constant mean curvature time functions in general relativity; foliations by constant Gaussian curvature surfaces (that is, $b = 0$) have found applications in Teicmuller theory through the landslide flow of Bonsante, Mondello and Schlenker. Generalizing to Weingarten foliations unites techniques that have been applied to the these two different cases and also gives the flexibility to construct geometrically natural foliations of some new domains. (Received September 11, 2017)