

Meeting: 1003, Atlanta, Georgia, SS 11A, AMS Special Session on Riemannian Geometry, I

1003-53-240 **Sungwook Lee*** (sunglee@usm.edu), Box 5045, Southern Hall, Department of Mathematics,
University of Southern Mississippi, Hattiesburg, MS 39406. *Spacelike CMC Surfaces in AdS*
3-space $\mathbb{H}_1^3(-1)$ and Spinor Representation. Preliminary report.

In 1998, R. Aiyama and K. Akutagawa gave a Kenmotsu-Bryant type representation formula for spacelike CMC surfaces in anti-de Sitter (abbreviated: AdS) 3-space $\mathbb{H}_1^3(-1)$. Their representation formula uses a non-holomorphic map, called the adjusted Gauß map, from a simply-connected Riemann surface into the Poincaré open disk. Since the adjusted Gauß map is locally defined, their representation formula enables us to construct spacelike CMC surfaces in $\mathbb{H}_1^3(-1)$ locally.

In this talk, we present a spinor representation formula for CMC spacelike surfaces in $\mathbb{H}_1^3(-1)$. The spinor representation formula has some advantages compare to Kenmotsu-Bryant type representation formula. It uses the (projected) generalised Gauß map which is defined globally, so the spinor representation is a global representation. The spinor representation is much easier to compute spacelike CMC surfaces (2×2 matrix multiplication) than Kenmotsu-Bryant representation formula (system of ODEs). We also discuss differential geometric properties of spacelike CMC surfaces in $\mathbb{H}_1^3(-1)$ and the Gauß map. (Received September 01, 2004)