Contribution ID: **29**   Type: **not specified**

Space-like string surfaces in AdS_3 x S^3 of vacuum type

Minimal surfaces in AdS with closed light-like polygonal boundaries play an important role for gluon scattering amplitudes in N=4 SYM theory. However, explicit formulae are available for the tetragon case only. As the string dual to N=4 SYM lives in AdS_5 x S^5 a more complete treatment should also involve the spherical factor with similar boundary conditions. We construct and classify all space-like minimal surfaces in AdS_3 x S^3 which globally admit coordinates with constant induced metric on both factors. Up to O(2,2) x O(4) transformations all these surfaces, are parameterized by four real parameters. The classes of surfaces correspond to different regions in this parameter space and show quite different boundary behavior. After embedding in AdS_5 x S^5 we calculate the regularized area for solutions with a boundary spanned by a four point scattering s-channel momenta configuration.

Primary author: Mr WUTTKE, Sebastian (HU Berlin)

Presenter: Mr WUTTKE, Sebastian (HU Berlin)