1135-83-522 **Christina Sormani*** (sormanic@gmail.com) and **Carlos Vega**. *"The Null Distance and Spacetime Intrinsic Flat Convergence".*

We define the null distance, $\hat{d}_\tau$, on a spacetime, (M, g), endowed with a time function, τ. This distance can be used to convert the spacetime, (M,g), with a regular cosmological time function (in the sense of Andersson-Galloway-Howard) into a metric space, (M, d_t). Once the spacetime has been converted into a metric space, we describe how one might recover the causal structure of the original spacetime using a formula involving the time function and the distance. The above is joint work with Vega.

We next apply the null distance to define Spacetime Intrinsic Flat (SIF) Convergence. We may present a conjecture (appearing in future joint work with Sakovich) concerning the SIF Almost Rigidity of the Spacetime Positive Mass Theorem. We may also describe possible applications to the SIF convergence of Big Bang Spacetimes (appearing in future joint work with Vega). It is possible some of this work may appear before the meeting but it is not yet on the arxiv now. (Received September 07, 2017)