1108-53-233 **Martha P. Dussan**, **Nikos Georgiou** and **Martin Magid*** (mmagid@wellesley.edu). *Minimal surfaces in the product of two dimensional space forms with the neutral Kähler structure.* Preliminary report.

Our ambient space is the product of two of the following surfaces: the sphere $\mathbb{S}^2$, hyperbolic space $\mathbb{H}^2$, the deSitter space $d\mathbb{S}^2$ or the anti-deSitter space $Ad\mathbb{S}^2$. Our metric is $(g, -g)$, where g is the standard metric on the surface. This is a neutral metric, i.e., with signature (+,+,-,-).

We consider either Riemannian or Lorentzian surfaces immersed in these ambient spaces. We find the structure equations for minimally immersed surfaces and prove some results about these minimal immersions. One example is the following theorem:

Let $F : \Sigma \to M^2 \times M^2$ be a minimal immersion of a compact surface Σ such that the induced metric is Riemannian. Assume that $K(x) + (-1)^m K^{\perp}(x) \geq 0$, for every $x \in \Sigma$ and $m = 0$ or 1. If M is a Riemannian space form then the immersion F is a complex curve and if M is deSitter space, the immersion F is locally the product of circles. (Here K is the Gaussian curvature and $K^{\perp}$ is the normal curvature.) (Received January 14, 2015)