1077-17-2711 **Angela M. Brown*** (ambrown@uta.edu). *Some New Results on Albert-Like Semifield Planes.* Preliminary report.

A semifield is a non-associative division ring. In 1958 Albert defined the "twisted fields" which are semifields with elements in $\mathbb{GF}(p^n)$ where p is prime and with multiplication defined by

$$x \circ y = xy^{p^m} - cx^{p^m}y$$

where $1 \leq m < n, c \neq a^{p^m-1}$ for $a \in \mathbb{GF}(p^n)$. In 1961 Albert further defined the "generalized twisted fields" similarly with a new product

$$x \circ y = xy - cx^{\alpha}y^{\beta}$$

where $\alpha, \beta \in$ Aut $(\mathbb{GF}(p^n)), c \neq x^{\alpha-1}y^{\beta-1}$ and $x, y \in \mathbb{GF}(p^n)$. We are working with a similarly defined product with an additional term. This product is defined as:

$$x \circ y = xy + Ax^{\alpha}y^{\beta} + Bx^{\beta}y^{\alpha}$$

where $\alpha \neq 1, \beta \neq 1, \alpha \neq \beta$ are automorphisms of $\mathbb{GF}(p^n)$ with $p \geq 3, n \geq 4$ and $A, B \in \mathbb{GF}(p^n)$.

These algebraic structures are used to coordinatize projective planes. We will be discussing our results obtained concerning automorphisms on these projective planes, namely those projective planes over the base field $(\mathbb{GF}(3^6))$. (Received September 22, 2011)