

Algebraic Geometry - Mariusz Koras in memoriam
Warsaw, 28.05.2018 - 01.06.2018



EXTENSIONS OF PRINCIPAL ADDITIVE BUNDLES OVER A PUNCTURED SURFACE

ISAC HEDÉN

University of Warwick

ABSTRACT. We study complex affine \mathbb{G}_a -threefolds X such that the restriction of the quotient morphism $\pi: X \rightarrow S$ to $\pi^{-1}(S_*)$ is a principal \mathbb{G}_a -bundle, where $S_* = S \setminus \{o\}$ denotes the complement of a closed point $o \in S$ and \mathbb{G}_a denotes the additive group over the field of complex numbers. Changing the point of view, we look for affine extensions of \mathbb{G}_a -principal bundles over punctured surfaces, i.e. affine varieties that are obtained by adding an extra fiber to the bundle projection over o . Special attention will be given to the case where X is smooth, the \mathbb{G}_a -action on X is proper and $\pi^{-1}(o) = \mathbb{A}^2$ is the affine plane.