

This is the full version of the extended Proceedings of the Cryptographers Tra (29 February – 4 March 2016, San Fra; Kazuo Sako Ed. Springer-Verlag, LNC:

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Abstract. Digital signat the development of pairin proposed. Among them, flexible and has been used suffers from a linear size situations.

In this paper, we propos without the linear-size dra length, and our algorithm pairings, that are already We prove the security of o we show that protocols u more efficient constructio

1 Introduction

Digital signature is one of tl to provide the electronic v more complex primitives. W usually requires a signature block, signatures must not j the other building blocks c require a signature scheme with zero-knowledge proofs.

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Constructing a versatile sig of the first construction sp proposed by Camenisch an RSA assumption [BP97], all of a signature.

The emergence of pairin nature schemes compatible use bilinear groups, *i.e.* a $e : \mathbb{G}_1 \times \mathbb{G}_2 \rightarrow \mathbb{G}_T$. In 200 nature scheme [CL04] whos group signatures [BCN+10]



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