An Invitation to Improbable Differential Cryptanalysis

Cihangir TEZCAN

Department of Cryptography
Institute of Applied Mathematics
Middle East Technical University

June 1, 2010

1.1. Introduction

- Attacks on block ciphers make use of a property of the cipher so that an incident (characteristic, differential,...) occurs with different probabilities depending on whether the correct key is used or not.

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Improbable Differential	p	p_0	$p_0 < p$

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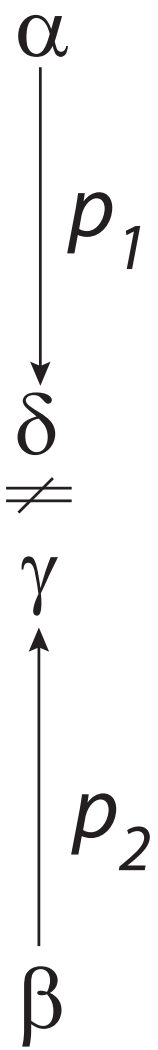
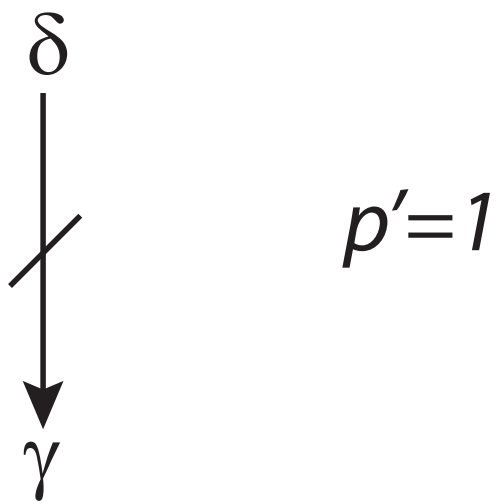
1.3. Almost Miss-in-the-Middle Technique



$$p' = p_1 \cdot p_2$$

1.4. Improbable Differentials from Impossible Differentials



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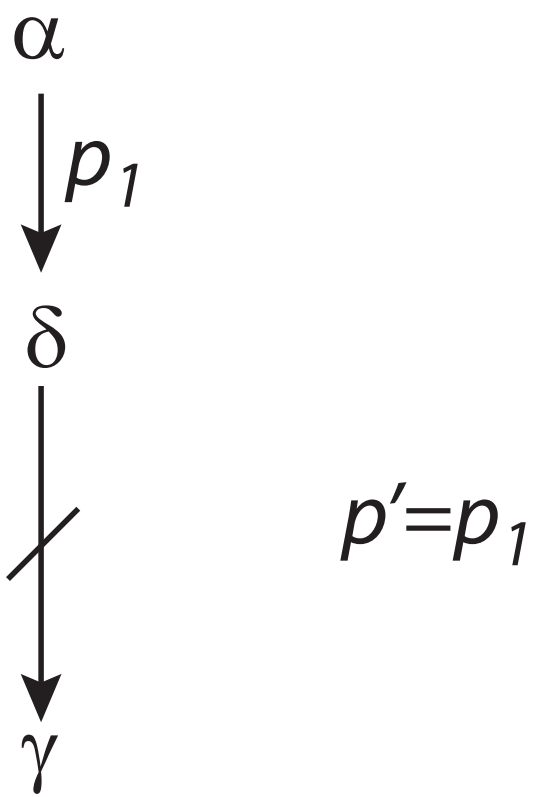

1.4. Improbable Differentials from Impossible Differentials

$$p' = p_1 \cdot p_2$$

1.5. Conclusion

Dear Sir/Madam,

You are cordially invited to apply improbable differential attack to your favorite block cipher or hash function.

Sincerely yours,
Cihangir Tezcan