

Breaking Polyalphabetic Ciphers

exhaustive search

ciphertext only

known plaintext

chosen plaintext

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Small key length only

Statistical analysis for small key length and significant amount of ciphertext

Subtract plaintext from ciphertext

Choose AAAAAA ... and match letters

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chosen ciphertext	Choose AAAAAA ... and match letters

OTP - One Time Pad

➔ Improvement over Vigenere cipher

Algorithm : combine the message and the key

Key : an infinite random string

Key space : 26^n (n being the length of the plaintext)

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⊕	yksuftgoarfwfwel
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	ZZZJUCLUDTUNNWGQS

Advantage : **this is the perfect cipher !**

Disadvantage : hard to use in practice, how to transmit the key ?