

Breaking Polyalphabetic Ciphers

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Subtract plaintext from ciphertext

Small key length only

Choose AAAAA ... and match letters

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exhaustive search	Small key length only
ciphertext only	Statistical analysis for small key length and significant amount of ciphertext
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chosen plaintext	Choose AAAAA and match letters
chosen ciphertext	Choose AAAAA 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: infinite

whatanicedaytoday

yksuftgoarfwpfwel

ZZZJUCLUDTUNNWGQS

Advantage: this is the perfect cipher!

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