hossam maghraby

شبكة المعلومات الجامعية

بسم اللّه الرحمن الرحيم

hossam maghraby

شبكة المعلومات الجامعية

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

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شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

قسم

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بالرسالة صفحات
لم ترد بالأصل

ALEXANDRIA UNIVERSITY

FACULTY OF ENGINEERING

SECURITY IN SPEECH COMMUNICATION SYSTEMS

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ALEXANDRIA , DECEMBER 1994

We certify that we have read this thesis and in our opinion it is fully adequate in scope and quality , as a dissertation for the degree of Master of science.

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ABSTRACT

In recent years there has been an increased interest in cryptographic techniques due to publicity and the impact of recent technological advances such as LSI/VLSI , microprocessors and programmable signal processor chips .

In this thesis we are interested in security of voice communication . A new technique in speech encryption is proposed . This technique is based on masking the amplitudes and the locations of the vocal tract speech parameters that are estimated according to an assumed model . Two different algorithms are proposed . This technique is applied on the cepstrum as well as on the LPC coefficients .

Real speech is used to test and evaluate the performance of the proposed secure system .

CONTENTS

ABBREVIATIONS

A / D	Analog to digital conversion
ADM	Adaptive delta modulation
ADPCM	Adaptive Differential pulse code modulation
APCM	Adaptive pulse code modulation
CDMA	Code division multiple access
CM	Correlation measure
DES	Data encryption standard
DFT	Discrete fourier transform
DM	Delta modulation
DPCM	Differential pulse code modulation
FFT	Fast fourier transform
FIPS	Federal information processing standard
IFFT	Inverse fast fourier transform
IV	Initial vector
LFSR	Linear feedback shift register
LPC	Linear predictive coding
LPF	Low pass filter
MSE	Mean squared error
PCM	Pulse code modulation
PSK	Phase shift keying
RKG	Running key generator
RSA	Rivest , Shamir and Adleman
SBB	Standard building block
SBC	Subband coder