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## Chaotic Communication Vs Traditional Communication

Vivek Singh Rajput<sup>1</sup>

Dr. J M Keller<sup>2</sup>

Dr. P Mor<sup>3</sup>

<sup>1</sup> Department of Physics and Electronics, RDVV Jabalpur, Madhya Pradesh, India.

<sup>2</sup> Department of Physics and Electronics, RDVV Jabalpur, Madhya Pradesh, India

<sup>3</sup> Department of Physics and Electronics, RDVV Jabalpur, Madhya Pradesh, India

Chaos Communication Analysis through Traditional Communication

**ABSTRACT:** The name of communication has its significance from the moment a person exists, but day by day it evolves in its own way, a major transformation of communication from analogue to digital. And now for the best and safest performance we are introducing chaotic connections to today's traditional communication system. The discovery of the random in predictable visual systems has changed into a new science, the science of chaos. Chaos systems are unstable and occurring from time to time, making them naturally difficult to detect and predict. In this paper the concept of complex communication is explained and its functionality and aesthetics are more traditional than traditional methods of communication. Most of the research that has been done so far proves that a complex communication system is much better than a traditional communication system. Recently, many researchers have looked at ways to use randomness features in social media and have actually found amazing results. It has a wideband feature, resists multipath fading and provides a cheap solution to the spectrum systems of traditional spreads. Chaos communication, the digital information to be transmitted is placed directly on the signal of the chaos signal

**Keywords:** Chaos, chaos system, GOLD CODES, Traditional Communication, Random

### I. INTRODUCTION

Communication is a way of expressing one's words and feelings to another person. In other words it is the way in which a message is conveyed to the intended audience, such as printing presses or electronic media. But the content may or may not be useful. Useful content for messages is known as information. Now as the world is evolving day by day, the communication process is improving step by step as described below in fig.1.

As it was reduced to a sentence, the main effect of Gutenberg's printing press was to make the printing less expensive. For the first time in history, the effort required to make a copy of a text was less than the required effort to produce an original copy, thus making a production model

"Make an original copy of the book, and print thousands of copies quickly and profitably."



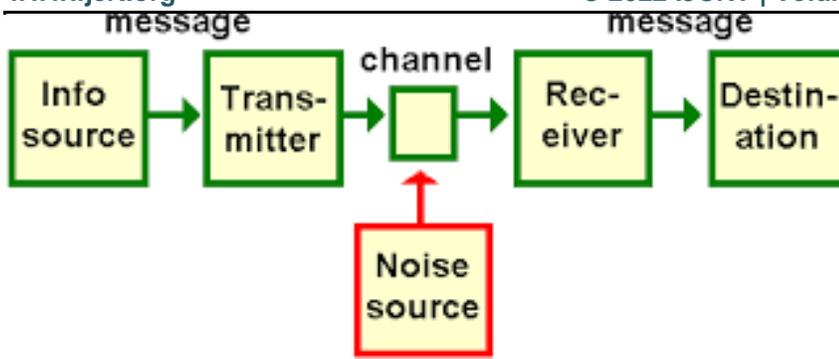


Figure 3 Block Diagram of Analog Communication

Radios and television also broke away from written slavery. Radio was one of the first technologies to be able to directly handle audio (which is the only competition record and if you consider that the most effective technology is a judgment call), and television introduces the most exciting video world. It was a long time before this copyright law was really problematic, as it was not until the 1980s that the big market consumer came up with any simple, effective video reproduction method (VCR). Concerns about the equality of recording in radio did not exist until the 2000s (the ability to record digital broadcasts directly on digital radio), due to the fact that the consumer of a large market did not have the technology to reproduce and distribute recordings in any way. level. So we can see that one of the pressures on copyright law is the availability of technologies that can produce or reproduce content in a certain way.

Radio and television also have their own barriers. The costs required to integrate even the most simple professional quality programs are very high, which introduces the concept of "entry costs". In theory anyone can start a TV show or network; in fact, it is much harder than a typewriter to print 1000 copies. Larger towers should be built, a power spectrum should be allocated (very limited to television before the arrival of UHF), and a large number of staff members running the station should be hired. Therefore, only a limited number of large networks can fully utilize the medium. This has changed with the widespread use of cable, as well as its compatible ability to transmit low-quality programs without an expensive transmission tower, allowing "public access channels" (perhaps only because of Government authority, though difficult to know for sure), but networks still dominate.

The presence of a large distribution network for a particular type of content, such as recorded audio, often suggests some sort of common way to distribute that content. With so many people being players of that approach, the pressure to create technology to allow the big market consumer to also create content in that mid-rise. So, a few years after the launch of the CD-ROM, we find CD writers in a huge market. DVD writers arrived much faster than CD writers, compared to the first language launch. Large-scale commercial distribution of its products often creates market pressure to create technologies that will allow the user, among other things, to infringe copyright laws. Another way to analog telephone communication. Calls are very similar to the postal service. In general, calls are no different from face-to-face conversation, and often little special treatment is required to behave. But I mention the challenges the law faced in telemarketing, fraud, and other people who exploited the platform for personal gain. We will find the principles found in the rules set by the phones useful in other similar situations later, especially issues related to "forced" communication, such as email spam.

#### Digital communication

Following this analog communication, the communication system was transformed into the most widely used digital communication system in today's world. Which gives us a powerful way to communicate that is online resources with computers and laptops.

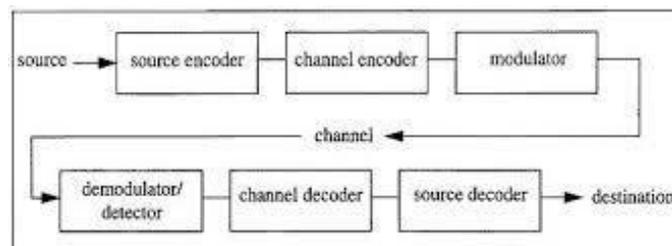


Figure 4 Block Diagram of Digital Communication

The Internet in just a few years has taken every bubble we have seen and quickly enlarged each one until it touches, cracks, and covers each other. For example, making a video for two audiences is possible because the internet increases the consumer's ability to have more power to distribute a large television network to send someone a video. The Internet, on the other hand, extends the production scale of television studios, often limited to just "too big" scales, to include the ability to make minimal, truly economical content available. The same thing has happened to the radio station, and all the sites have come up with an attempt to make a profit out of this, such as Live365.com, which helps people build what radio stations are. Many social networking sites such as facebook, twitter are growing rapidly as the best way to communicate [2].

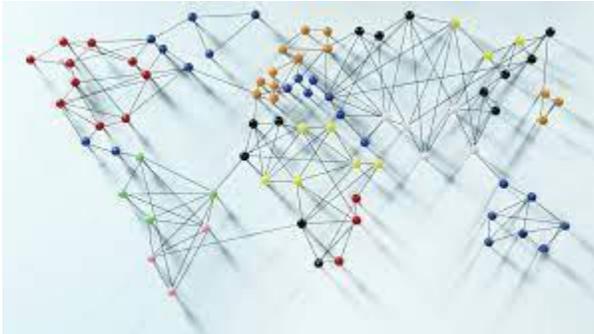


Figure 5 International Communication

Preventing irrational absurdity requires excessive effort on the part of the judge, and the result is far from reasonable rigidity; instead it stinks an attempt to continue forgiving the law even if it is absurd. One can hardly imagine a more comprehensive way to challenge traditional communication systems.

FDM is used, where each signal is assigned a different network frequency within a large channel. Frequently assigned network networks are separated by security belts, which act as barriers to reducing the medium carrier-

Disorders (ICI), or opposite speech, from nearby spectral areas. However, this separation in spectrum destroys existing bandwidth. In contrast to FDM, OFDM uses scattered orthogonal underground transmitters to split the broadband frequency channel into multiple flat-footed channels, bringing significant bandwidth savings. OFDM provides tremendous growth in the industry as evidenced by the never-ending demand for wireless products and services and the concurrent need for high performance of these systems in densely populated and high-demand areas; it is clear that OFDM will be the backbone of many high-level data communication systems in the future. To provide secure communication and to improve system performance a sequence of turbulence in OFDM (orthogonal frequency division multiplexing) can be used. Strangely modified signals are sent to each sub-carrier of the standard OFDM system [4].

## II. COMMUNICATION SYSTEMS

All systems can be basically divided into three types:

- Determination systems

These are systems in which a set of conditions can be predicted and the output may not differ significantly from the change in the initial conditions.

- Stochastic programs

These systems are not as reliable as deciding systems. Output can only be predicted by a certain number of values

- Chaos systems

Chaos systems are the most unexpected of these three systems. In addition they are very sensitive to the initial conditions and a

slight change in the initial conditions can bring about a major change in its output.

### Chaotic Communication

The discovery of the random in predictable visual systems has changed into a new science, the science of chaos. Chaos systems are unstable and occurring from time to time, making them naturally difficult to detect and predict. Recently, many researchers have looked at ways to use the elements of social media to create amazing results. This field of communication is called Chaotic Communication.

Disruptive communication signals are broad spectrum signals, use high bandwidth and have low power spectrum density. In traditional communication systems, the analogue sample functions transmitted by the channel are the sum of the sinusoid and direct wavelengths. However, in turbulent communication systems, the samples are part of the turbulent waves and are not linear.

This indirect, unstable and occasional turbulent communication feature has many features that make it attractive in the use of communication. It has a wideband feature, resists multipath blurring and provides a cheap solution to the spectrum systems of traditional spreads. Chaos communication, the digital information to be transmitted is placed directly on the signal of the turbulent band.

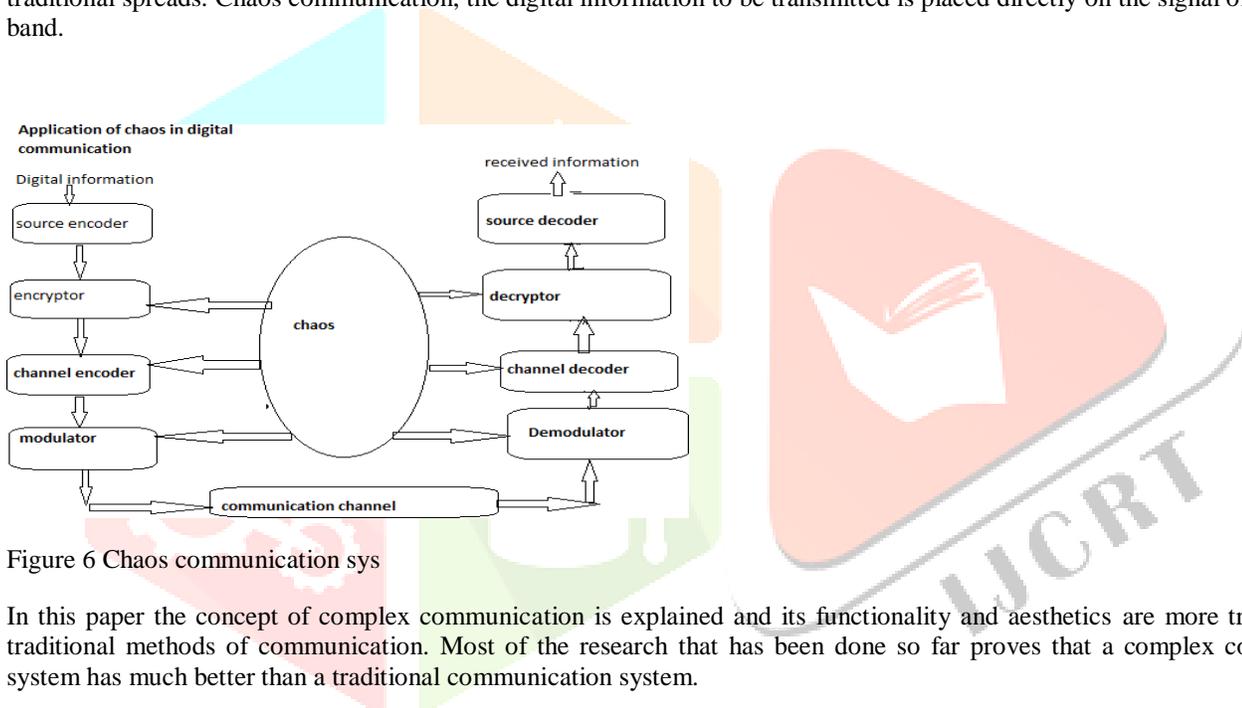


Figure 6 Chaos communication sys

In this paper the concept of complex communication is explained and its functionality and aesthetics are more traditional than traditional methods of communication. Most of the research that has been done so far proves that a complex communication system has much better than a traditional communication system.

### Turbulent communication requests

- Used for secure communication.
- Used on Ultra Wide Band radio.
- Used on radar and sonar.
- Used in oscillator.
- Used in a flexibility program.
- Used in spread spectrum.
- Used for secure communication Standard Communication Based on Sinusoidal vs. Chaos-Based Communication General Disruption.

### III. THE BENEFITS OF CHAOS COMMUNICATION OVER TRADITIONAL WAYS

- Chaos signals have a broadband spectrum, which is why the presence of information does not really change the signal

characteristics.

- Outgoing power remains unchanged regardless of the content of the information.
- It does not tolerate multipath fading and provides a cheap solution to traditional distribution systems.
- Chaos signals occur periodically so they can only predict limited. Signs of confusion are complex in structure and it is impossible to predict over time.
- Signs of randomness appear as noise.
- So a signal of chaos can be used to provide security at a visual level.
- At higher speeds it is easier to produce stronger, higher chaos signals than periodic signals.
- The signs of chaos are not as sensitive to the original conditions and have noise like time series

chaotic signals have less exposure and are difficult to detect with eves dropper.

- In a complex communication, then using a series of communication technologies instead of avoidance, this eliminates the complex steps of maintaining consistency.
- Chaotic communication systems can operate in a wide range of flexibility, with fewer complex components and operate at higher power levels than traditional communication systems.
- Correct CDMA asynchronous codes using chaotic spread-spectrum sequences can support 15% of users more than the standard GOLD codes for the same bit rate (BER) function.
- Chaos signal has auto cross correlation properties, low multipath interference and self-synchronization property.
- Outgoing power remains unchanged regardless of the content.
- It is resistant against multi-path fading and offers cheaper solution to traditional spread spectrum systems.
- Chaotic signal are aperiodic therefore limited predictability [9].

#### IV. RESULT ANALYSIS

A system with a sequence of chaos is compared to a system of traditional communication. Here we have designed a digital communication receiver with OFDM strategy. At first the traditional system is characterized when the diffusion spectrum can be used but in system development are the conditions of spectral efficiency, security and high level of data distribution method i.e. the sequence sequence is introduced. The proposed program is being implemented through MATLAB. Figure 7 shows the traditional system compared to the proposed system shown in fig.8.

The order sequence used is based on the algorithm shown below:

$$x_{n+1} = rx_n(1-x_n)$$

where:

the number between zero and one represents the average current population and the largest possible population per year  $n$ , and that is why  $x_0$  represents the first average population to the highest population (in year 0)

$r$  is a positive number, and represents the combined rate of fertility and hunger.

As discussed above the first graph represents a basic system with an indirect structure. Here the BER ranges from  $10^{-1}$  to  $10^{-5}$  and the SNR is tested individually. Initially the climb was seen up to  $10^{-3}$  after which a stable BER was detected to increase the SNR which reduced system performance. Later a sharp decrease is noted in BER with a slight change in SNR.

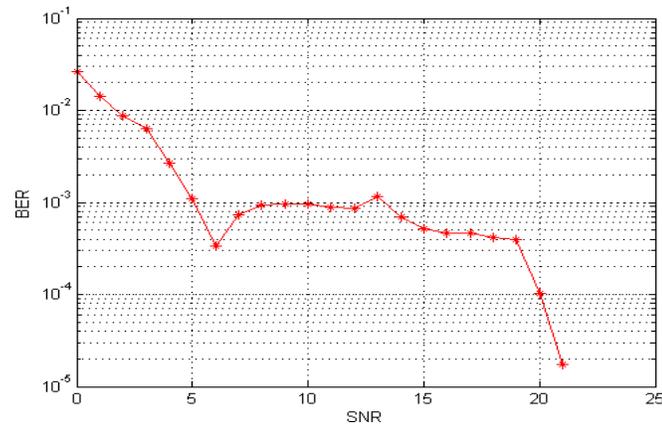


Figure 7 OFDM Traditional Systems

Computer simulation investigates the BER operation of a proposed strategy called the turbulent communication based on the OFDM system. As seen above, in the second graph i.e. fig.8 the turbulent system with the line structure is suspended. Here the BER ranges from  $10^{-1}$  to  $10^{-5}$  and the SNR is tested individually. As the SNR increases the BER curve leaning downwards this indicates a decrease in the error rate slightly more smoothly compared to traditional methods.

The structure provides an improved final result due to the distribution of the spectrum through a sequence of objects which are chaos. Similarly, in BER  $1.0000e-03$ ,  $1.0000e-04$  and  $1.0000e-05$  SNR values are analyzed well and is evident.

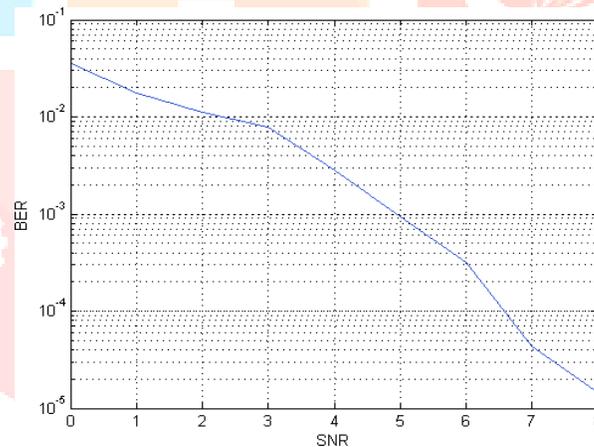


Figure 8 OFDM and chaotic sequence

## V. CONCLUSION AND FUTURE WORK

A very brief overview of Chaos Communication is defined, describing the configuration of the harmonized communication system and the direct communication of the chaos in comparison with the normal communication system setting. A few key modulating schemes have been described; however, it was not possible to explain some of them in detail because of the limited space. A lot of research done so far proves that a disruptive communication system has more advantages than normal communication all technologies have advantages and disadvantages. We also had a broad view of the history of secure secure communications. We have learned about attractions, chaotic systems and signals as well as comparisons of common chaotic communications and their applications. Therefore, chaotic communication should be used in a rational way, it should lead to human integrity and benefit humanity. Here we have used 2D sequence sequence another function can be extended to 3D sequence sequence. Channel status parameter can be more realistic and can be analyzed for practical use. A very brief overview of Chaotic Communication is described, explaining the setting of the sy system

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