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Study of dielectric Resonator optical antenna present past and future

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ABSTRACT:

Optical nano antenna plays very important role because an antenna is an important element for any technical or any transmitting devices. The creation of technology has main aim to develop society and to reach every last person because technology working like sward which can cut all backwardness of the society so, we have to develop and established Digital or Technical community with high efficiency .The antenna simple called Arial, which is fabricated for one purpose to develop, communication this starting sense but now a day's Antenna not only transmitting or receiving devices. It has unique ability to establishe its own structure to produce new structures .The human being seeing new route for future development with moving simple Antenna to optical antenna or nano antenna which works on nanoscale or nano –dimension. Optical Antenna has some others potential Application for variety of Applications allows us to enable for near field or far field with high resolution bio-medical sensors which have for bio-logical and hypothermal future ,which support different types of Plasmonicnano-antenna for nanoscale transistors. The pratical applications of nanoantennain near future will be bright with their classical analogs.

KEYWORDS*:* Arial, Plasmonic,nano-antenna , transistors ,Digital or Technicalcommunity

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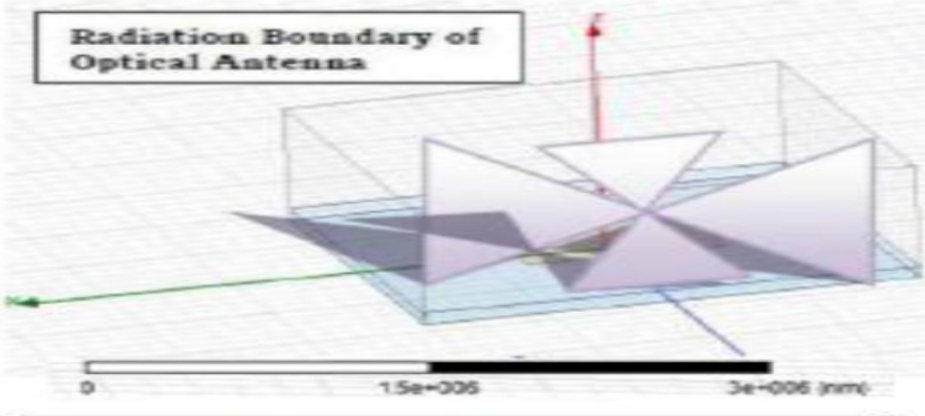
INTRODUCTION

Nanoantenna has high level radiationelements. Optical antenna has unique type of RF strategies to optical or plasmonic realm. Optical DRA has many uncertainties with unique properties with high level approaches Engineered materials or nonmaterials. The function of optical antenna with uses particles like gold particle which has widely used for exploited to achieve every small bit size of context of optical antenna structures ,element play main reasons why these elements well works with THZ Frequency . The dielectric Resonator optical antennahas some new design to fabricate new and high level configurable superior conductor which general to improve its potential performance with high level enhancement . The impedance value of Antenna System main integration for nano or micro level communication .The optical antenna has main aim to increase antenna Gain with Low losses. Its design is very usefull because its feeding technique has unique model Expansion which can expansion which can express through low losses of conducting radiation element. The wireless communication Antenna Network design has been interest for researcher from the past few decades due to design and manipulation .The demonstration of optical DRA antenna has special direction as well as control on complex and analytic algorithms. Which is able to control at THZ, GHZ Scale. Although opticalAntenna wavelength propogation providing high and advance level technology for nanoplasmonicdevices.The fabrication process may be describe and explore design that increase the spontaneous emission rate with high level magnitude to improve optical antenna working range depend upon relationship between metalicintraction with nanoscale or THZ Scale .nowdays we are allowing our technology. The dielectric resonator antenna has encouraging develoment for different bands or THZ band have taken on interest .In terms of optical nanoantenna works in to integrate the Antenna with DRA Termed. The permittivity of optical DRA antenna proves the element to be suitable antenna array Application. The antenna gain enhancement depending on increase bandwidth which introduced multiple resonances and minimizing its dimensions. The radiation pattern of any antenna determined by far field radiation or transformation of magnetic current .The optical DRA Frequencies patterns and efficiency of Antenna model show similar radiation patterns .it has lower dielectric material used for made-up Antenna material then achieved Antenna higher order of increasing impedance bandwidth.

PROPOSED OPTICAL DRA ANTENNA LITERATURE

Optical DRA antenna seems to be useable venin the optical regime. In this research article shows how DRA Work at optical regime THZ frequency scalability found the DRAs on optical nano Antenna resultant. In this literature we have proposed mainly focus on development of analytical model which is capable to describe properties for transverse electromagnetic (EM) well suited for

surface propagation on dielectric material. The dielectric material model uses the effective medium concept and based on quasi-static approach and the theory wave propagation, depend on formula for polarization dependent approach formula model techniques solved as well as proposed theoretical model which affect relative permittivity .The sensitive model found that polarization of sensitive model got better perforated dielectric that gives better approximation than other model or general antenna model . The currently utilized in antenna propagation related material which gives angular Frequency E(□).The simulation and demonstrate that material proves its implications .The original contributions on this research article based on DRA elements higher order which is rectangular and cylindrical optical DRA were Configured Present Simple Shaped Antenna conductive ground plane. The antenna size of ground plane shaped has been optimized as well as maximized the antenna Gain. Antenna engineers improved its fundamental and maximize the gain we proposed unique analysis to propagate for surface Plasmon directivitivety of antenna pattern surface DRA is conventional for GHZ, THZ Frequency coupling levels among the element Au/Ag element .many interesting approaches for future researchers open door based on this work presented in this article.



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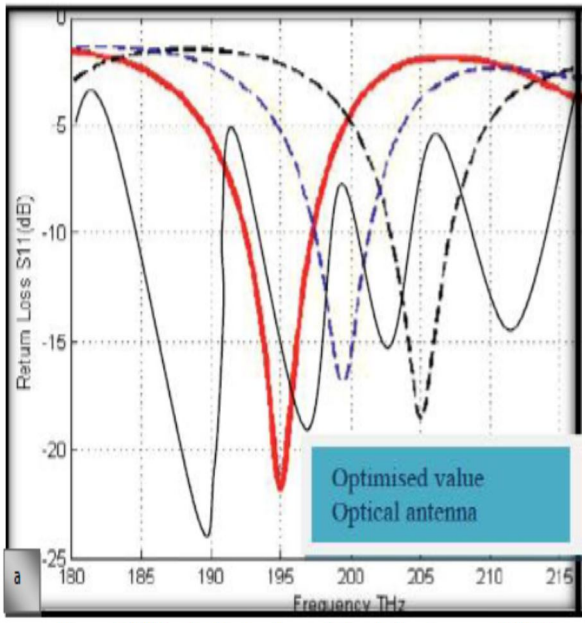

Figure 1.(a).Simulated return loss and directivity of proposed ODRA

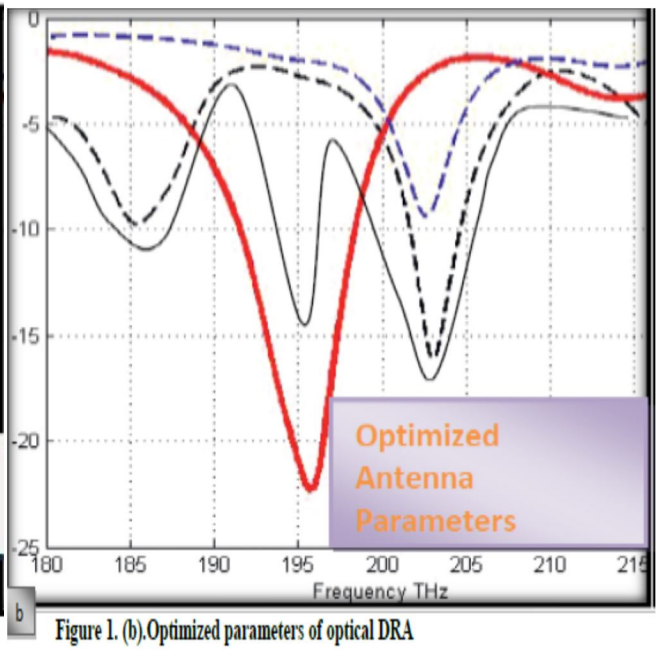

Figure 1. (b).Optimized parameters of optical DRA

CONCLUSIONS

In this paper we have studied as well as proposed new method to design optical Antenna which has enable to study this radiation distribution of THZ, GHZ range. This research work will very helpful to improve optical Antenna efficiency at nanoscale. Simulations base approach work well with Dielectric Antenna. We have presented very new tread communication antenna at nanoscales operation with high bandwidth application to nanomaterial Antenna design due to its high impedance at nm frequency range. The optical properties of Antenna material has important factor to design Antenna at nm scale. The frequency response depends upon optical response of Gold-particle. Optical Antenna has very unique ability to transmit optical frequencies at nanoscalewavelength. The original contributions on this research article based on DRA elements higher order which is rectangular and cylindrical optical DRA were Configured Present Simple Shaped Antenna conductive ground plane. The antenna size of ground plane shaped has been optimized as well as maximized the antenna Gain. Antenna engineers improved its fundamental and maximize the gain we proposed unique analysis to propagate for surface Plasmon directivitivety of antenna pattern surface DRA is conventional for GHZ, THZ Frequency coupling levels among the element Au/Ag element .many interesting approaches for future researchers open door based on this work presented in this article.

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