

# High Intensity LASER Rays System

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**Abstract**— The paper is based the working principle of corona generator, utilisation of the positive charge on top of the tomb of the corona generator, it also include the information about basic atomic structure. The reflection of potons inform of laser light through the thick coated mirror .The LASER is a coherent and focused beam of photons, coherent mean it all have same wave length , the acronym LASER stands for “ Light Amplpication by Simulated Emission of Radition” .The LASER is a power of source light which having extraordinary energy, the unique property of LASER their light waves is travel for long distance without any divergence.[1]The is paper prepared to fullfill the requirement of our defense forces for indigenous war fighting equipments. According to the paper the high intensity laser it refracted through the silca lens. At the end the paper is also proved by the electrical field theory equation and distance travel by LASER with help of observation table. The remarkable feature of laser is the concentration of its energy to extremely high intensities, the intensity remaining almost constant over long distances because of low divergence. If a laser beam with a power of a few megawatts (106 W) is focused by a lens at a spot with a diameter of 1/1000th of a centimeter, the beam intensity increases to a few hundred billion watts per sq. cm. This concentrated energy is so intense that it easily ionizes the atmospheric air to create sparks. With the beam focused from a high power laser, even the hardest material like "diamond can be melted in a fraction of a second.[1]

**Key words:** Lase rays, wavelength

## I. INTRODUCTION

Before starting the paper will reviewed some chemical information know about the atoms. Atoms is basically a unit of matter and defines the structure of elements. Atoms consists of mainly three parts which includes the nucleous located at the centre of the atom, after that in inner parts of shells majority charge carriers is protons, weight more as compared to electron and some neutrons which has no electric charge and mass slightly larger than protons each has one atomic mass per unit . In outer parts of the shells majority charge carriers is electrons, weight of electron is low as compared to both the proton and the neutron. Atoms can become positively charged if they lose electrons or negatively charged if they capture extra electrons. These atoms are called ions. When something is made up of a number of ionized atoms, the thing itself has a charge. Because the charge itself is not moving, it is called a static charge (static means “not moving”) or “static electricity.” Negatively charge objects will attract positively charged objects. If they get too close the electrons will jump from the negative thing back to the positive thing in the form of a spark. This is a one-time deal; the electrons do not keep flowing, which they do in “current” electricity.[2]

According to the paper the Laser (Light amplification for simulation and emission of radiation) is generated after the chemical combination between electrons and holes & generating the protons. For producing high intensity radiation used of van de graff generator is done, such as the application of van de graff generator in transmission it utilised their proton. While passing of conductor through the top of some equilateral distance from the top tomb of van de graff generator, the electricity is produce due to repulsion of proton between the conductor and the top of tomb of van de graff generator. Finally electricity is produce due to the flow of electron in cable due to the motion of attraction between protons so electron has capable of moving due to require force in inner structure of the atom.

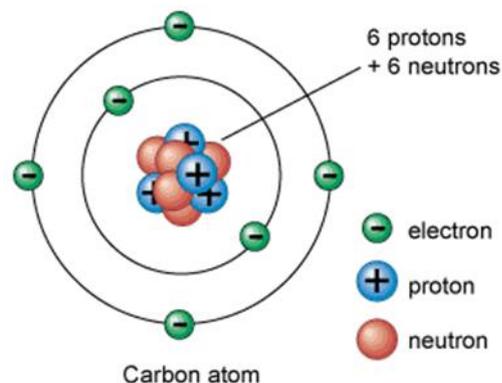


Fig. 1: atomic structure.

## II. CONSTRUCTION

According to paper indicated constructional diagram of van de graff generator, the BLDC motor made of teflon material is used for rotating the insulating belt made up of rubber, the upper side the semiconducting rotor for transmit the charge is used. The brushes made up of copper at both the upper and lower side is used, the upper brush is used to lose the electrons, due to repulsion between the proton of roller and insulating belt, lower brush is used to gain the electrons through current carrying conductor which use to collect the current from motor, after that wire will grounded.

In this paper for purpose of reflection of the protons at upper side strongly coated electrode is used after removing the upper tomb which is made of steel. The refracted mirror made up of silica lens is used for refraction of proton beam. This whole process is done under a thick air evacuated hollow glasstube. A high degree of directionality and monochromatic is also associated with these light beams. Therefore, in a laser beam the light waves not only are in the same phase but also have the same color (wavelength) throughout their journey. The beam of the ordinary light spreads out very quickly. On the other hand, the laser beam is highly collimated and spreads very little as

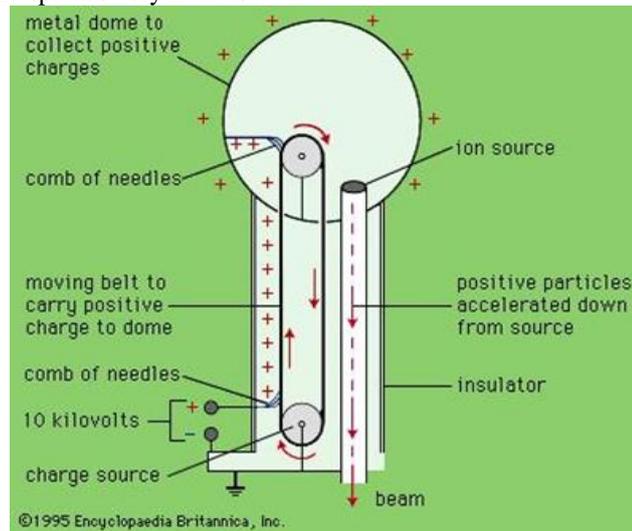


Fig. 2: construction of van de generator.

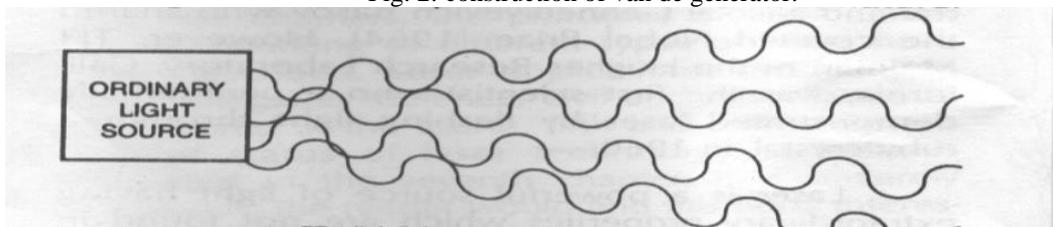


Fig. 3: Ordinary light source.

If fig Laser travels through space; even after traveling to the , surface of the moon the spread of laser light has been found to be only about 3 km across. Hypothetically, if ordinary light was able to travel to the so moon, its beam would have fanned out to such an extent leading to a diameter of the light on, the moon as much as 40, 000 km[1].

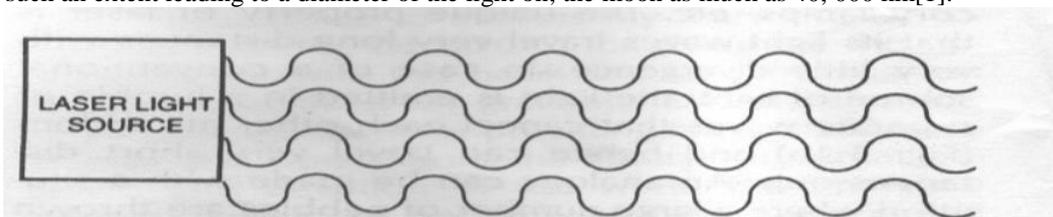


Fig. 4: Laser light source.

## III. WORKING

According to paper when the dc supply is applied to motor, the insulated belt rotor will rotated, the charges present on belt are accelerated at downward direction, after that time when the charges are in contact initially with lower rotor side the charges are breakdown and distributed. The majority charge carriers electrons are over the surface of the lower rotor due their own flux produced in inner side of motor , the majority charge of protons are over the surface of belt due to their insulating property, there is an air gap between the lower brush and the lower rotor of the motor with insulated belt. After that the electrons is collected by the lower brush due their good electrical conductivity property. The proton from the insulated belt is attracted with lower brush proton but the lower brush is quickly ground, so now at lower brush the electrons are minority charge carriers. Now protons is majority charge carriers on brush. But the proton has also consists the electron so they behaves as a sub atomic particle, they will attracted to the belt but due to electron is already carry the majority, the negative charge over the lower rotor

is present, so electrons will repel with the subatomic particle, now the majority charge carriers on insulated belt is proton, that move in upward direction with insulated belt. When they will contact with the upper roller which is made up of semiconducting device then at that instant of time the semiconductor has minor charge carriers is electron but due to rotational motion in semiconductor the sub atomic particle will break, the proton from insulated belt and proton in semiconducting rotor is repel, now charge proton is repel. After that by using the thick coated mirror is set vertical with the help of screws. The mirror will reflect the proton and with the help of silica refracted mirror, the proton is refracted after make an acceleratory reflection of protons between the two vertical mirror which placed at required distance and airgap. After that the remaining electrons are flow downward direction with the insulating belt but they also have some protons so they behaves as a subatomic partiel, the upper brush is lose the electron in insulated belt due to the sub atomic partiel has some amount of protons so electron will attract to it but due to majority charge carriers is electrons so elctron from the brushes is reflected. the insulated belt is acts as a negative charge body or a neutral charge body.

#### IV. CALCULATED ASSUMEDSIMULATION OF H.I.L.R.S(HIGH INTENSITY LASER SYSTEM)

Here from the calculation of electricfield intensity the paper is trying to get the value of refraction of LASER through silica lens.The value which are taken in the paper is assumed value.

Upper roller is made up of germanium so electric field intensity of germanium-  $E_{ge}=(F/Q)$  where  $Q$ = speed of photon  $=1.602*10^{(-19)}$  ,  $e$ =permittivity=16 so  $F_{ge}=(Q/4*3.14*e*r^2)=1.59*10^{(-3)}N$  where speed is 3000rpm Diameter=5 meter.

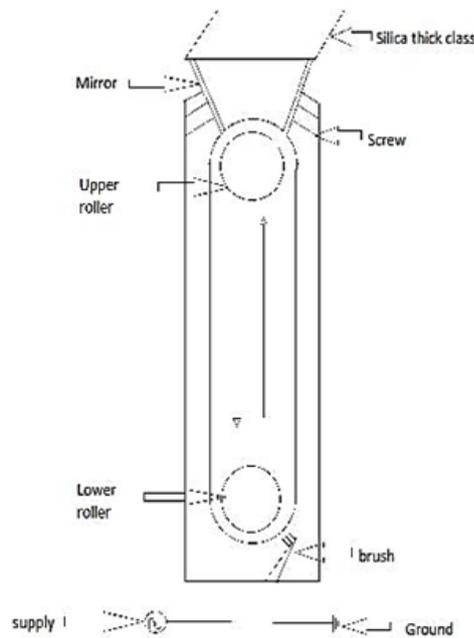


Fig. 5: Working of H.I.R.L.S.

Electric fieldintensity for germanium  $E_{ge}=10^{16}N/C$ .Here paper take  $Q$  is speed of proton because at that time proton is majority charge carriers.Electric field intensity of rubber due to insulated belt made up of rubber Permittivity of rubber is  $\epsilon_r=7$ . For finding force same formula of columbs law is require.Where  $Q$ = speed of photon= $1.602*10^{(-19)}$ .Force on rubber is  $F_{rub}=3.64810^{(-16)}N$ . Here also paper take proton as positive charge carrier which travel upward direction.  $E_{rub}=2.277*10^{(3)}N/C$ .

Electric field of teflon due to which the elctron are travel at the outer surface of the motor when break at tip of the motor permittivity of teflon  $\epsilon_p=2.1$ , so force  $F_t=16674.24N$ .Speed of electron  $=1.4*10^{(-15)}$ , Electric field intensity  $E_t=118767.3N/C$ .

For finding distance travel the paper will require to calculate the speed of the LASER speed (S) is 18600 miles per minutes, and the electric field intensity which is equal to  $E_{ge}$  because the proton is repel at upper roller  $E=F/Q$ . Force  $F_s=10^{16}*1.602*10^{(-19)}=1.602*10^{(-3)}N$ .Here  $B$ =Magnetic density=(permeability\*H(electricfield intensity))  $H=E_{ge}$  so  $B=1256*10^{(10)}$  so distance travel  $Dt=F_s*B=2*(10)^{(10)}$ .

Observation table – Observation table indicated the calculated results of different material use in (H.I.L.R.S).

S.RNo	Germanium	Rubber	Teflon	Silica
1	$Q=1.602810^{(-19)}m/s$	$Q=1.602810^{(-19)}m/s$	$Q=1.4*10^{(-15)}m/s$	$Q=1.602810^{(-19)}m/s$
2	$F_{ge}=1.59*10^{(-3)}N$	$F_{rub}=3.64810^{(-16)}N$	$F_t=16674.24N$	$F_s=1.602*10^{(-3)}N$
3	$E_{ge}=10^{16}N/C$	$E_{rub}=2.277*10^{(3)}N/C$	$E_t=118767.3$	$E_s=10^{16}N/C$
4	$Q$ =Speed of proton	$Q$ =Speed of proton	$Q$ =Speed of electron	$Q$ =Speed of proton

Table 1:

For finding the distance travel  $Dt=Fs*B=2*(10)^{10}m/s$ . According to observation table if the assumption is taken according to paper then  $Dt=2*(10)^{10}*0.001=2*10^{(7)}km/s$

#### V. CONCLUSION

The paper is concluded that the formation and dissipation of proton is highly intensified due to the continuous process of the H.I.L.R.S(High Intensity Laser Rays System).According to the observation table it is proved that the LASER intensity is high and the distance travel by LASER is also long due to the electrostatic force is exerted on the proton due to the motion of insulated belt and bldc(Brush-Less DC) motor .So this system is used in future to destroy our enemy in any kind of war situation like mounting on the Navy ships, placed on top of the mountain region for ARMY, use in tanks for ARMoured Fighting Division , fitted on the air craft for AIR FORCE .

#### REFERENCE

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