NEW BIOLOGICAL WEAPON DESIGN IDEOLOGY

Amandeep Singh

Student, Department of Aerospace Engineering,
School of mechanical engineering, Lovely Professional University, Punjab, India.

Abstract— **In today world most of the weapon system are changing day by day as we see, In very short period of time like if we talking about 1945 in this year the nuclear weapon was discovered and till now, the weapon's or the nuclear weapon have been change a lot like in designing or in theoretical part as well .Now the days , every country want's new technology and new design in which we can easily harm the world in very short period of time but not destroy the country like as a nuclear weapon because by the biological weapon we can spread the infection to the humans . In many country, scientist making the new biological weapon design because by the biological weapon we can secretly spread the infection. Biological weapons are microorganism like virus, bacteria, fungi, or toxins that are produced and released deliberately to cause disease and death in humans, animal or plants. In this research paper I will give the new gun bullet design in which we can send or filled any harmful or toxic material on it and tell the different toxic poison or compound which react with human blood easily and will be use that's toxic in this design.**

Keywords— Bullet, Internal Bullet Shell, Design Detailing, Toxic Compounds, Drag, Drag Coefficient, Moment, Moment coefficient, Mach Number.

I.) INTRODUCTION

In today world, the technology and scientific research area are fast growing sectors Every country are making new weapons and efficient design and make more world easier but there are some advantages, disadvantages of the technology because it can be misuse by any one and effect the world easily. Biological weapon is one of them weapon which effect and destroy the human race. Biological weapons spread virus bacteria and infection to human and they spread by human to human and become a chain, it show's more worst effect on that country in which the population is very high. Weapon divided into two major parts first is designing part and second is working principle as well as theoretical part. In designing part, we change the design but working principle or in theoretical part, we change whole working principle. They are two types of toxic in the world, first is organic and second is inorganic toxic. Organic toxic naturally habitat in nature like bacteria or viruses. Mostly organic toxic spread by food or air and they have vaccination in medical filed. Inorganic toxic artificial made in labs. Inorganic toxic very dangerous because this type of toxic they don't have any antibiotics and vaccinations. In ancient time, the people use poison in there bow tip for kill the animal same we follow the rule and tell how we can use that things in there designing filed.

Figure 1: Ancient Bow

II.) DESIGN DETAILING

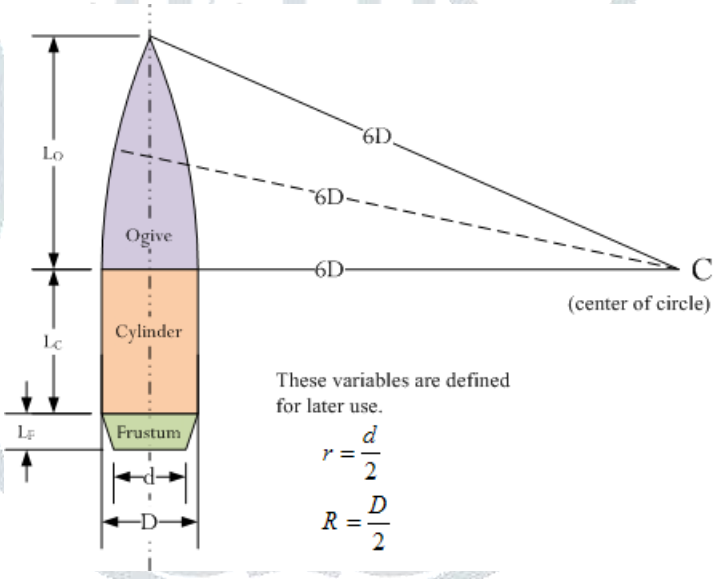

Figure 2: DESIGN DETAILING

Figure 3: ACTUAL VIEW OF INTERNAL BULLET DESIGN

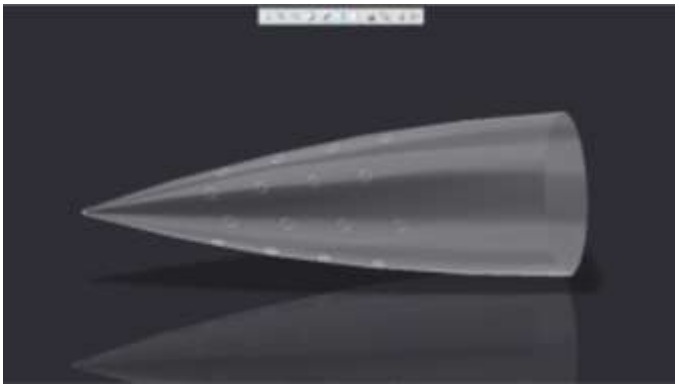

Figure 4: GLASS SHELL IN WHICH TOXIC COMPOUND FILLED

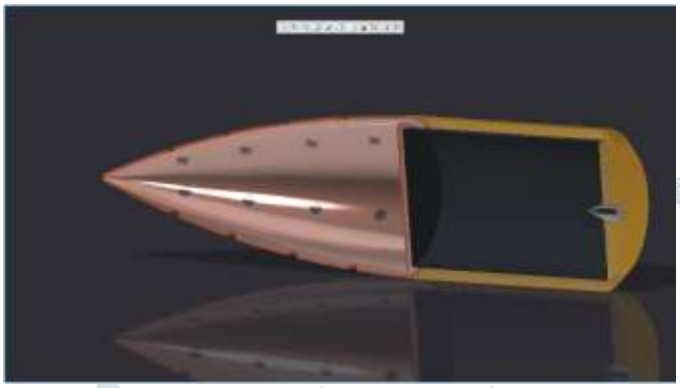

Figure 5: CROSS SECTION VIEW OF NEW DESIGN

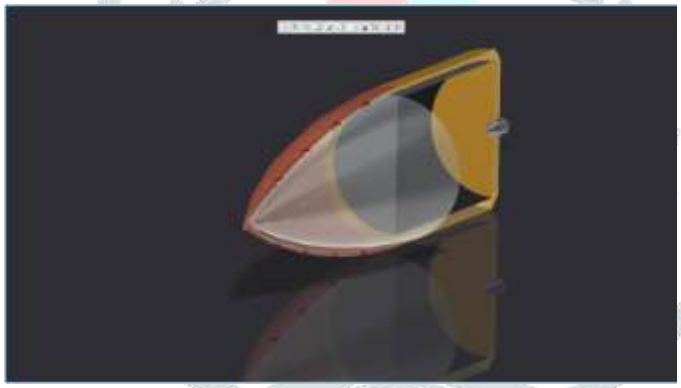

Figure 6: INTERNAL GLASS VIEW

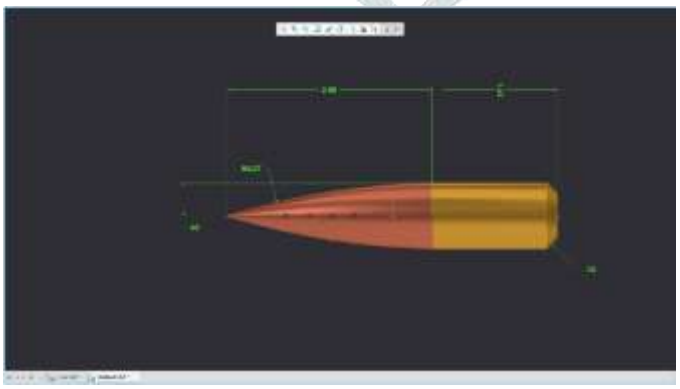

Figure 7: DIMENSION (in inch)

Figure 8: FRONT VIEW

Figure 9: ACTUAL RENDER VIEW

II.) TOXIC COMPOUNDS

A.) CAESIUM OXIDE:

caesium oxide describes inorganic compounds composed of caesium and oxygen. The following binary (containing only Cs and O) oxides of caesium are known: $Cs_{11}O_3$, Cs_4O, Cs_7O, and Cs_2O.Both the oxide and suboxide are brightly coloured. Caesium oxide generally refers to Cs2O, which is the simplest and most common oxide. It forms yellow-orange hexagonal crystals. Caesium oxide are toxic in nature if any person inhaling the caesium oxide it will show the allergic reaction like sinus, respiratory problem and there no medicine for cure.

Figure 10: CAESIUM OXIDE

C.) AZITHROMYCIN

This drug is commonly used in treatment for the infection of sinus and throat infection but it is very harmful for the high blood pressure patient and it can be causes serious problem after the taken. It will take just 15minutes for block all internal nerves and slow down the blood pressure. This type of drug, if it will be used in high concentration the person would be definitely dead**.**

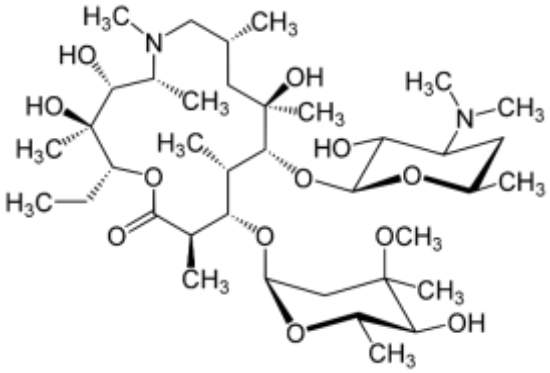

Figure 11: AZITHROMYCIN

D.) CORONA VIRUS:

Coronaviruses are a group of related RNA viruses that cause diseases in mammals and bird. In, humans and birds, they cause respiratory tract infections that can range from mild to lethal mild illnesses in humans include some cases of the common cold which is also caused by other viruses, predominantly rhinoviruses while more lethal varieties can cause SARA, MERS and covid-19 In cows and pigs they cause diarrhea while in mice they cause hepatitis and encephalomyelitis. We can use this also in our design because our design is air tight and as well as strong stress capacity.

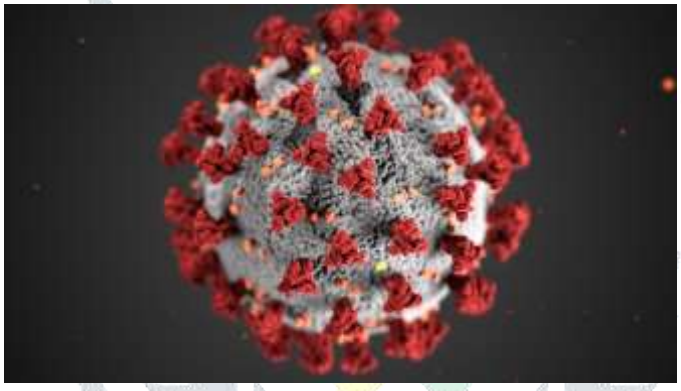

Figure 12: CORONA VIRUS

E.) BACTERIA

Bacteria are small single-celled organisms. Bacteria are found almost everywhere on Earth and are vital to the planet's ecosystems. Some species can live under extreme conditions of temperature and pressure. The human body is full of bacteria, and in fact is estimated to contain more bacterial cells than human cells. Bacteria are small single-celled organisms. Bacteria are found almost everywhere on Earth and are vital to the planet's ecosystems. Some species can live under extreme conditions of temperature and pressure. The human body is full of bacteria, and in fact is estimated to contain more bacterial cells than human cells.

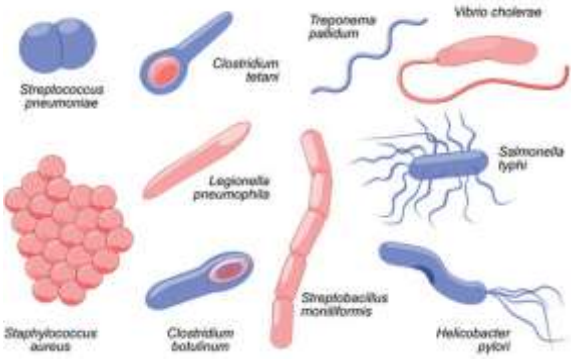

Figure 13: BACTERIA

F.) POISON

In Biology, poisons are substances that can cause death, injury or harm to organs, tissues, cells and DNA usually by chemical reactions or other activity on the molecular, scales when an organism is exposed to a sufficient quantity. The fields of medicine and zoology often distinguish a poison from a toxin and from a venom. Toxins are poisons produced by organisms in nature and venoms and other poisons is the delivery method. botulinum toxin is the strongest poison which produced by anaerobic bacteria. We use the poison in the design.

Figure 14: POISON

III.MATERIAL SELECTION

we can select the materials for gun bullet design. For this gun bullet design, I choose the copper for outer shell, glass use for inner shell. They are reason given below here:

(1st) COPPER have high capacity to resist the heat, for nose shell. it is good material because shell of the bullet gun is the first surface which interact with the air, and air pressure generate high temperature on the nose / tip of the missile and can't melt easily at high temperature because high speed create the temperature on the nose. SpaceX company also use the steel material for making the body and nose shape for the manufacturing.

(2nd) GLASS is very lite weight material and very high strength capacity material which can handle the shear force, stress and air pressure of the atmosphere.

(3rd) BRASS is very ductile material and lite weight material.

VI. BLOOD

Blood is a body fluid in humans and other animals that delivers necessary substances such as nutrients and oxygen to the cells and transports metabolic waste products away from those same cells. In vertebrates, it is composed of blood cells suspended in blood plasma. In human blood we can mix any toxic easily by the injection or by any type of medium because blood is in liquid form and continuously flow through out all the nerves of human body and that's why infection spread into the human body very fast for example after the snake bite it take only just (3 to 15) minutes to spread the snake poison into the whole body.

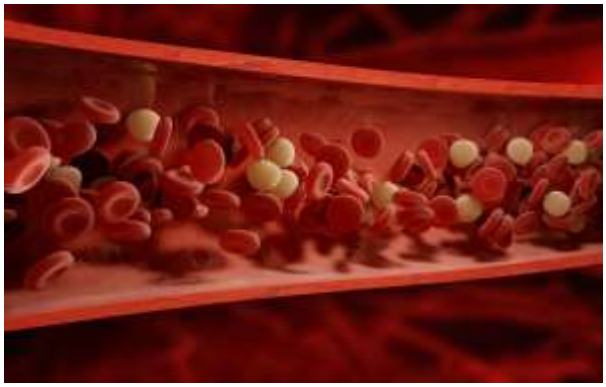

Figure 15: BLOOD

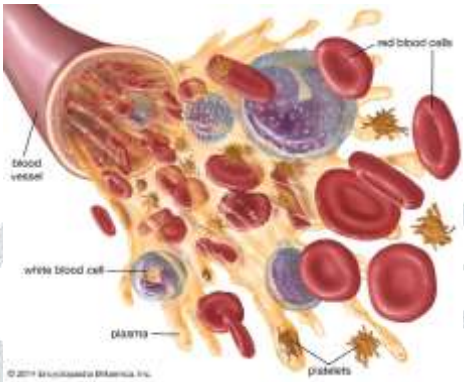

Figure 16: BLOOD COMPOSITION

VI.WORKING PRINCIPLE

Working principle of this gun bullet design is very simple. It shot by the gun and bullet enter into the human body, then due to the high pressure of strictness, the internal glass of the shell break and toxic compound or toxic liquid will be mix with the human blood and will react with it.

VII.MODELING AND DESIGNING

In this paper, bullet is designed by using PTC Creo parametric 4.0 software. The first step is to create a 2D Slender body with nose shape and revolve with respect to the central axis and Last step, convert into 3D model for CFD testing. The commonly used tools in designing to create a model in Creo 4.0 parametric are- Extrude, extrude cut, Revolve, revolve cut Sweep, Swept cut, Fillet, Chamfer, Mirror. CFD Analysis is carried out in three steps i.e.

(i) Pre-processing, geometry, – Designing, meshing, boundary conditions and numerical method.

(ii) Processing – Solving fluid flow governing equations by numerical method till the convergence is reached.

(iii) Post processing – extracting results in terms of graphs, contours which explains the physics of flow and required results. The above three steps are carried out in ANSYS using fluid fluent CFD for designing and meshing with Hybrid grid that is prismatic layer around missile design and unstructured grid. Simulations are carried out using ANSYS fluent a finite volume solver at with inlet conditions. In this analysis we use the automatic mesh generation method because of the complexity of structure

VIII). INLET CONDITION AND BOUNDARY CONDITION

Table 1:Inlet and boundary condition

SL.NO	Parameter	Value
1	Flow Medium	Air
2	Mach Number	0.3,1.0,1.2,2.0
3	Density	1.225Kg/m^3
4	Length	2.50+1.41
5	Turbulent Model	K-omega
6	Kinematic Viscosity	1.7894e-05kgs/m^2
7	Altitude condition	Standard sea level

IX). RESULT AND DISCUSSION

In this paper, ANSYS software is use for the CFD test. We check our design at four different speed like subsonic, sonic, transonic, supersonic speed and analyse the pressure variation, wall shear variation, strain rate variation at different speed.

ANSYS2020R1 COMPUTATIONAL DATA:

Table 2: Aerodynamic Characteristic with different Mach number.

Mach Number	Drag	Drag coefficient	Moment	Moment coefficient
0.3 (subsonic)	0.80	1.31	-0.012	-0.019
1.0(sonic)	8.90	14.54	-0.198	-0.32
1.2(transonic)	12.46	20.34	-0.26	-0.43
2.0(supersonic)	34.0	55.66	-0.74	-1.21

WALL SHEAR

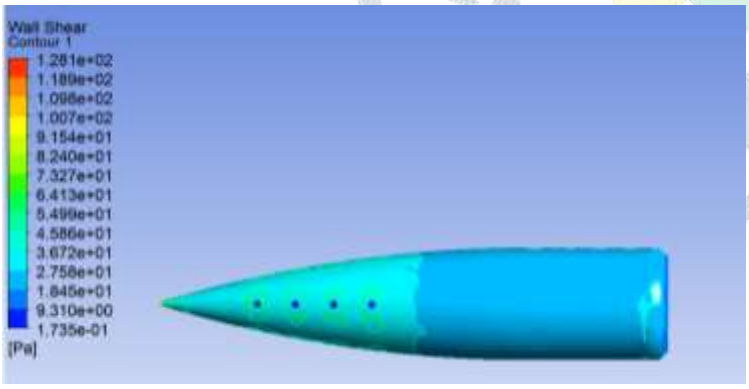

Figure 17: Mach0.3

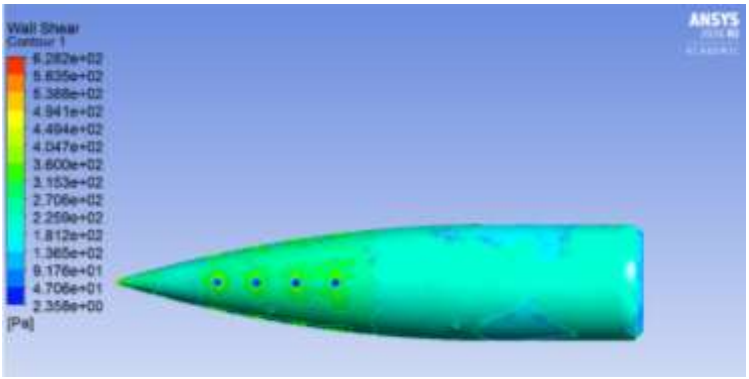

Figure 18: Mach1.0

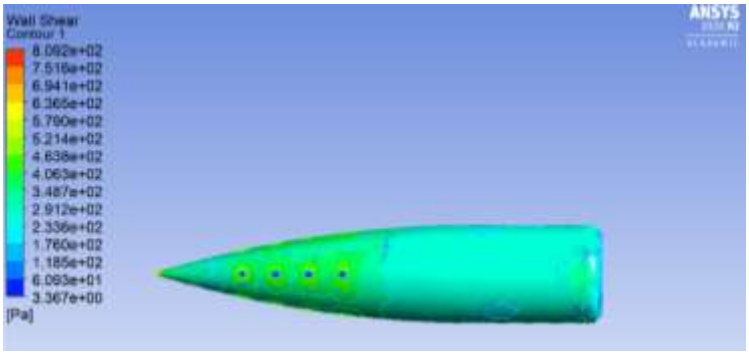

Figure 19: Mach1.2

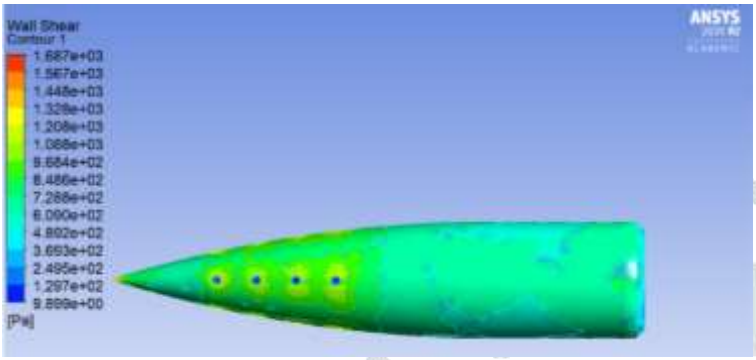

Figure 20: Mach2.0

STRIN RATE DISTRIBUTION

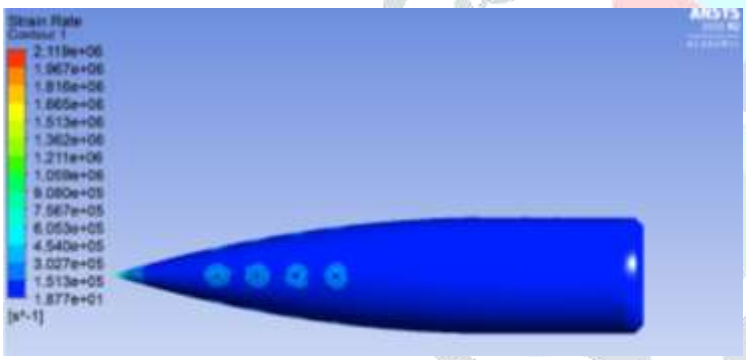

Figure 21: Mach0.3

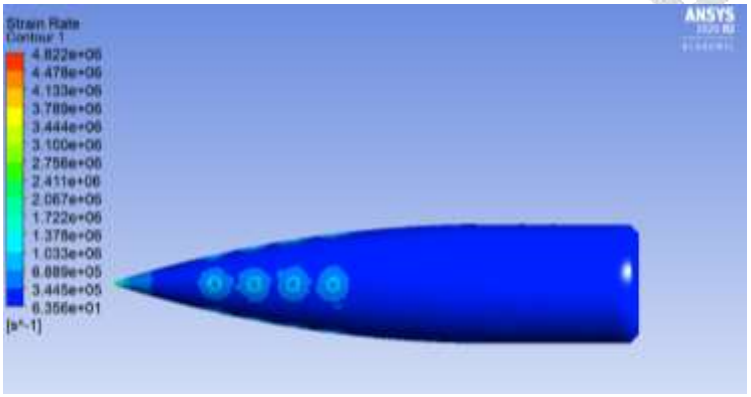

Figure 22: Mach1.0

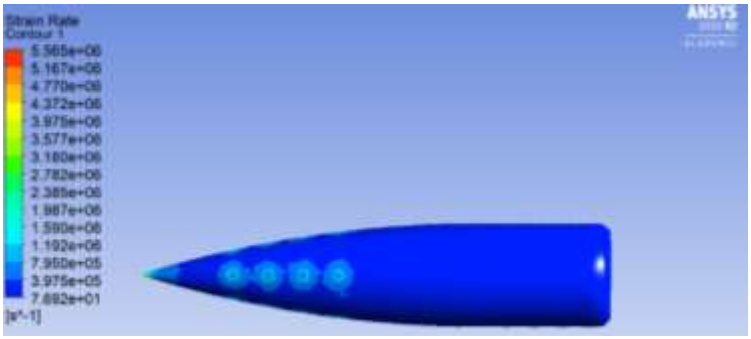

Figure 23: Mach1.2

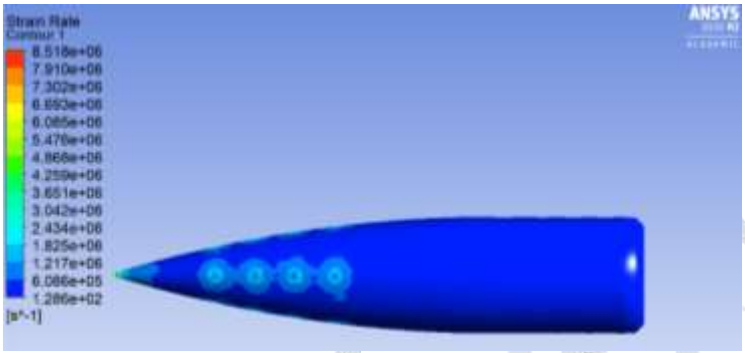

Figure 24: Mach2.0

VELOCITY VARIATION

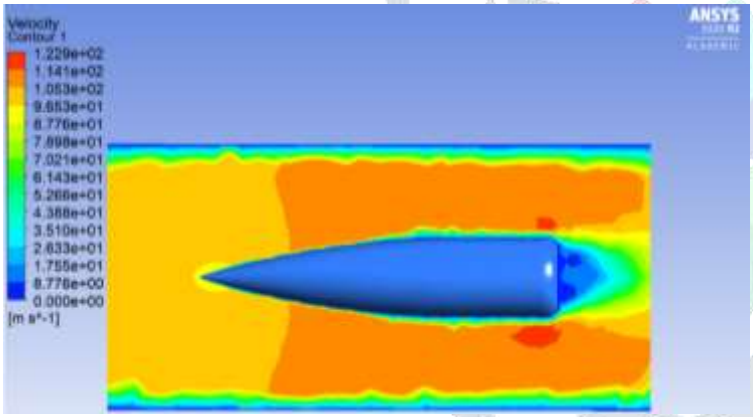

Figure 25: Mach0.3

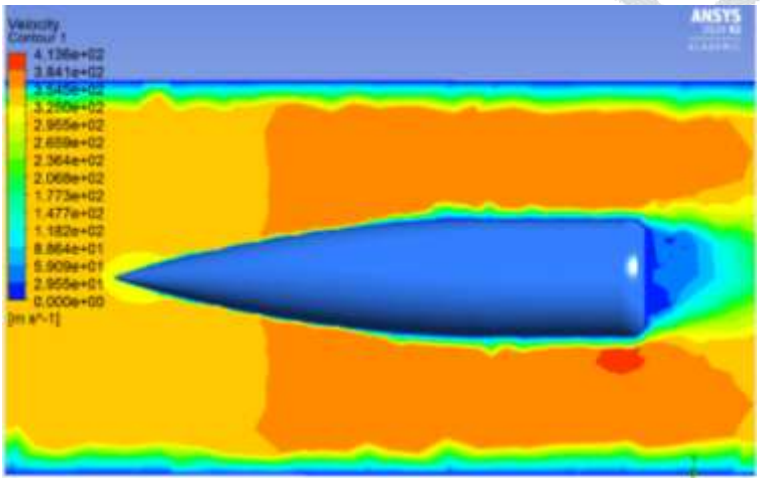

Figure 26: Mach1.0

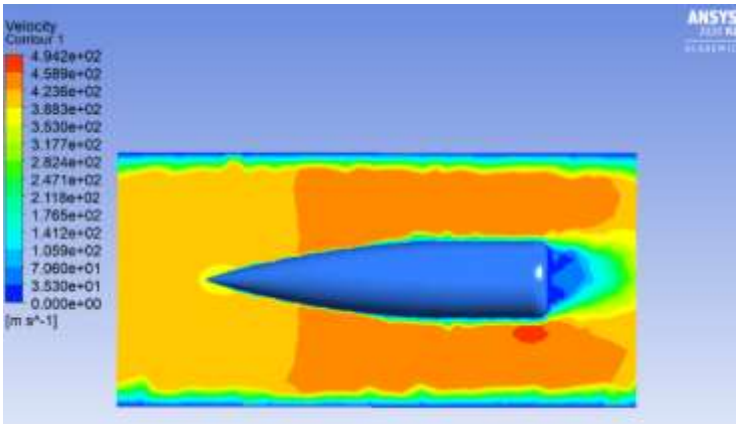

Figure 27: Mach1.2

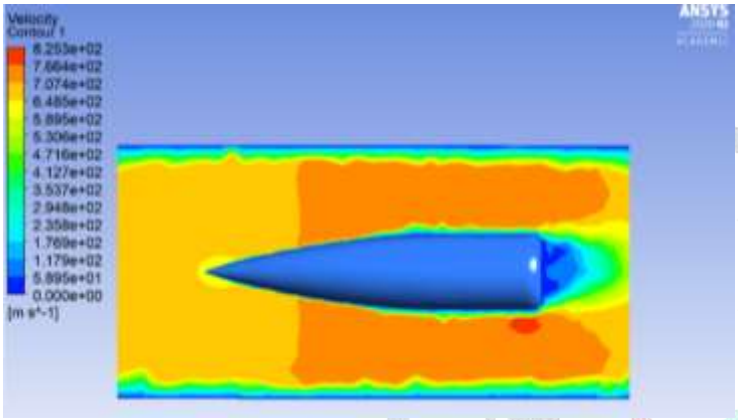

Figure 28: Mach2.0

PRESSURE VARIATION

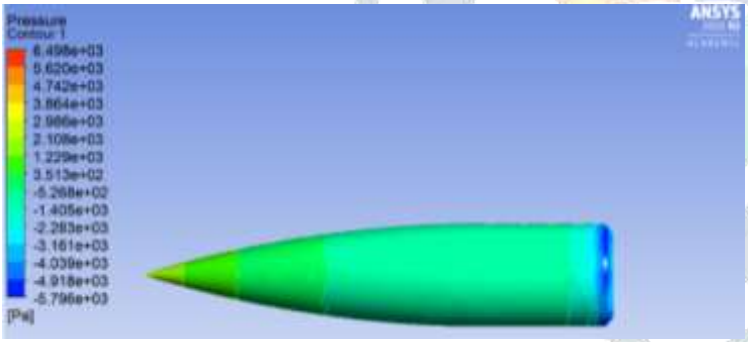

Figure 29: Mach0.3

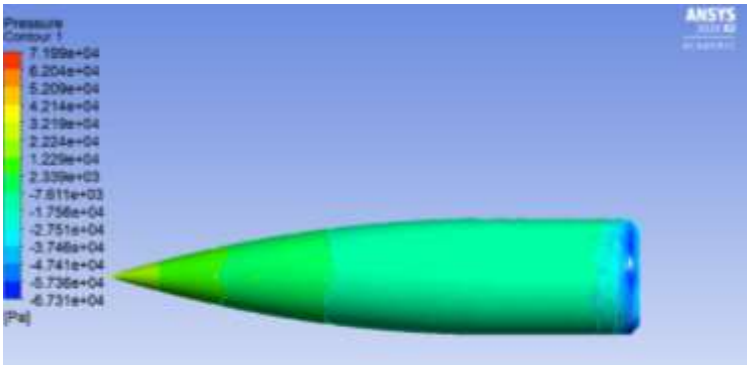

Figure 30: Mach1.0

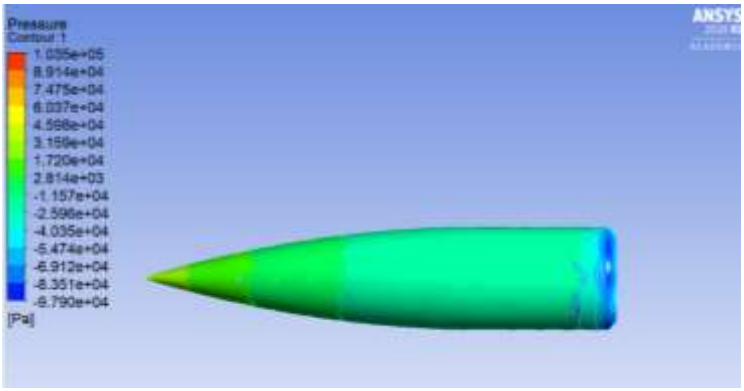

Figure 31: Mach1.2

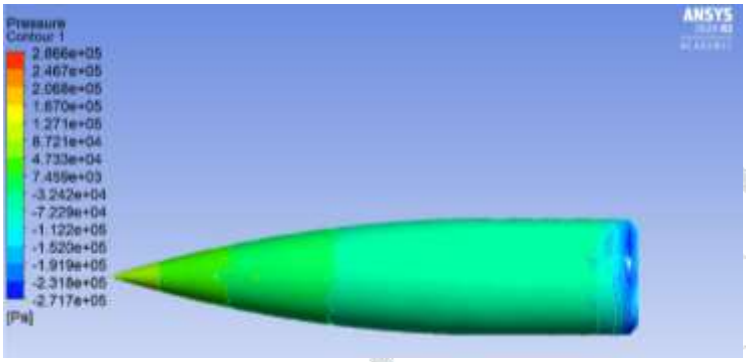

Figure 32: Mach2.0

X). CONCLUSION

Conclusion for this paper, In this paper, we just talk about how we can make the biological weapon with small change in bullet gun design and share all the analysis result of a design also show the air flow, drag values, moment values over the bullet with different Mach number. we discuss different type of toxic compound which react with the human blood and spread the infection into the human body.

XI). FUTURE SCOPE

This type of weapon design will be use for on that cases in which we want terrorist alive and this type of bullet gun more efficient in terrorist attack. We can modify the design as per requirement. This is just an idea how we can change the design into the biological weapon design and tell some toxic compound in organic as well inorganic.

XII). REFERENCE

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