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Military Radar

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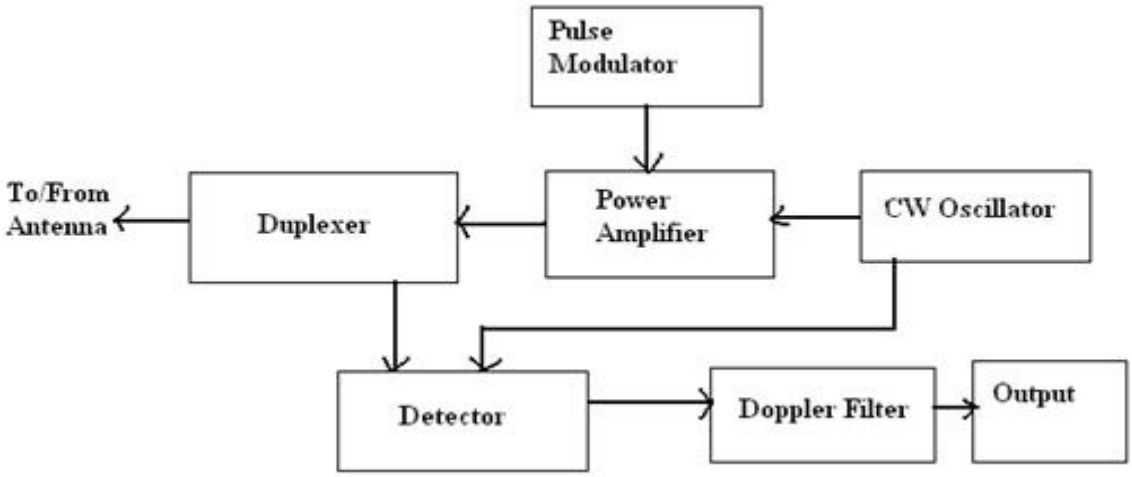
Abstract: ***RADAR stands for Radio detection and Ranging in this system radio waves are used to determine range, angle or velocity of objects.***
The system has a transmitter that emits radio waves called radar signals in predetermined directions. And when they come in contact with any obstacle they are usually reflected or scattered in many directions Radar was developed secretly for military use by several nations in the period before and during world war II.
It was also used for detecting the approaching aircraft. Military Radars have its own unique features like highly mobile and easily transportable by air and ground. Radar is used in air, on the sea, on the ground and in space.
It has a no of applications which are as follows airport traffic control, military purposes, coastal navigation, meteorology and mapping etc.
Keywords: Transmitter, Military, Navigation.

I. INTRODUCTION

It uses electromagnetic waves for finding target and determining its location & speed. Military radar should be like an early warning with measures to weapon control functions. It should have significant features and can be developed within minutes. It is widely used for warning in military area. Thus, it has become an important modern warfare electronic technology equipment.
The command and control capabilities of the radar in combination with an effective ground based air defence provide maximum operational effectiveness with a safe, efficient and flexible use of the air space.
When we combine the advantages of centralized air defence management with decentralized air defence control we obtain the increased operational effectiveness.



II. MILITARY BENEFITS

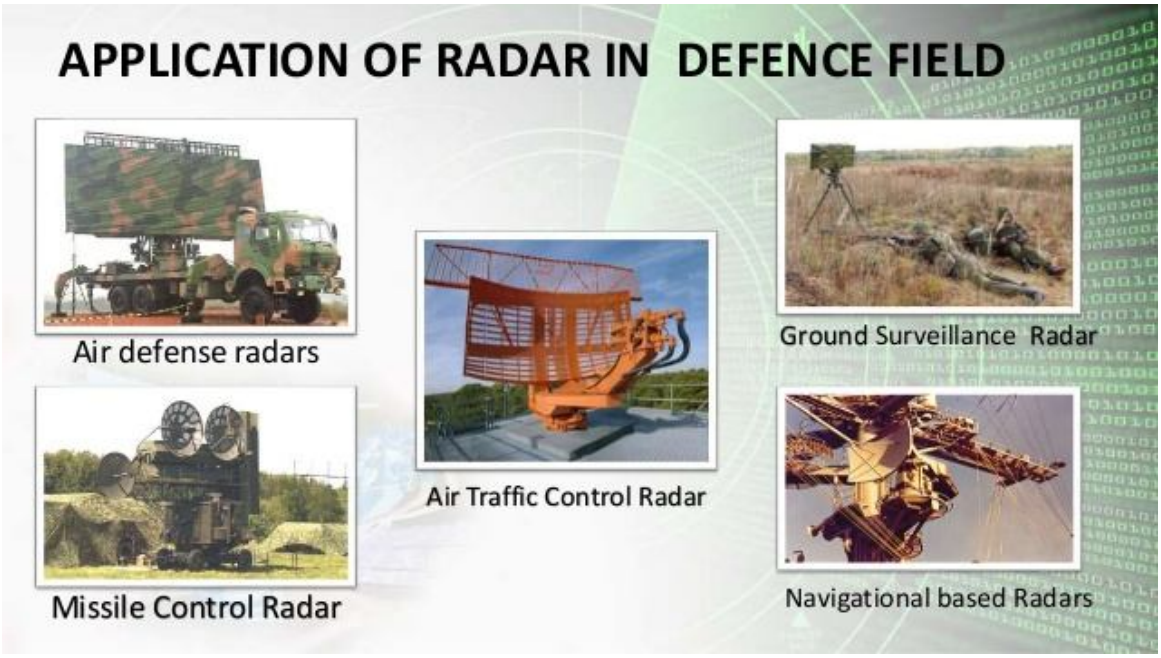
A. All – weather day and night capability
B. Multiple target handling and engagement capability.
C. Short and fast reaction time between target detection and ready to fire moment.
D. Easy to operate and hence low manning requirement and stress reduction under severe conditions.
E. Highly mobile system , to be used in all kind of terrain.
F. Flexible weapon integration and unlimited number of single air defence weapons can be provided with target data.

III. DISADVANTAGES OF MILITARY RADAR

A. Time- Radar can take up to 2 seconds to lock on.
B. Radar has wide beam spread (50 ft. diameter over 200 ft. range)
C. Can not track if declaration is greater than one mph per second.
D. Large targets close to radar can saturate receiver.
E. Hand- held modulation can falsify readings.
F. Range discrimination can be achieved only by introducing very costly complex circuitry.
G. Several targets at a given bearing tend to cause confusion.
H. It is not capable of indicating the range of target and can show only its velocity.

IV. APPLICATIONS

A. Navigational aid on ground and sea.
B. Radar altimeters (height measurements)
C. Radar blind (lander aircraft landing during poor visibility)
D. Space applications like planetary observations.
E. Low cost air traffic control systems.
F. Planetary mapping.
G. Detection of low probability of intercept (LPI) Radar signals.
H. Local metrological monitoring.

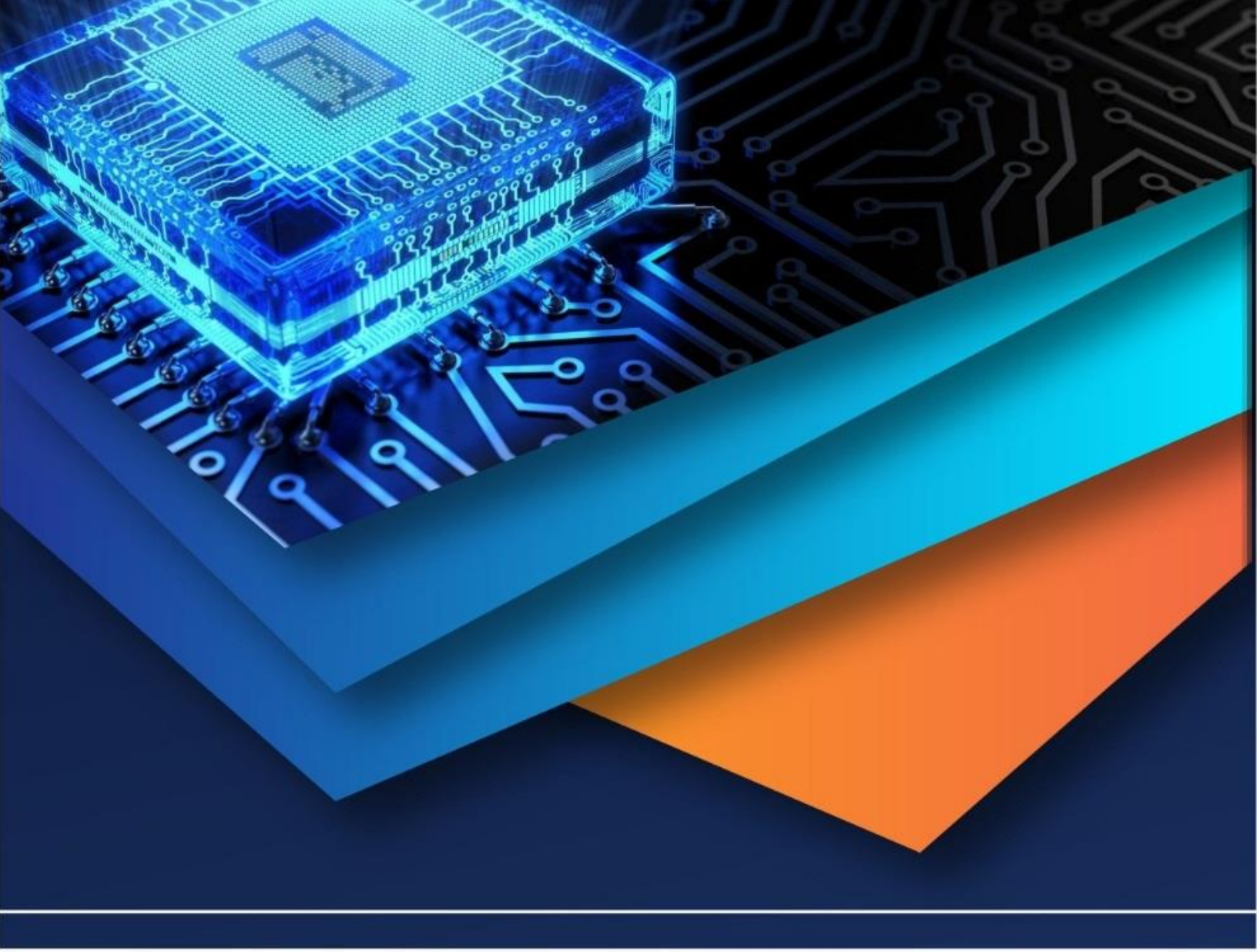


V. CONCLUSION

Military radars are one of the most important requirements during the war time.
Which can be used for early detection of missile and also for accurate detection and provides certain necessary measures of protection.
Radar System has a control in threat evaluation program which automatically puts the target in a threat sequence and it also decides and makes a suggestion to the weapon crew which target can be taken first.

REFERENCES

[1] N. Padmaja Dr. S. Varadarajan
[2] R. Swathi Signal Processing of Radar Echoes using wavelets and HILBERT HUANG TRANSFORM Vol2.



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