

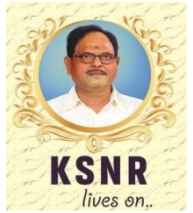


K.S.R.M. COLLEGE OF ENGINEERING (AUTONOMOUS)

Kadapa, Andhra Pradesh, India – 516 003

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Department of Computer Science and Engineering

A One - Day Guest Lecture On

“Missile Guidance and Control”

01st April, 2021

REPORT

Mr. D. Srinivasulu Reddy, Scientist, DRDL (Defense Research and Development Laboratory), DRDO, Hyderabad delivered a lecture on "**Missile Guidance and Control**" organized by **Department of Computer Science and Engineering**.

Targeted Group: IV B. Tech CSE Students

Mr. N. J. Pramod Dhinakar, Assistant Professor, Dept. of CSE introduced the resource person.



Figure 1 Mr. N. J. Pramod Dhinakar, Assistant Professor, Dept. of CSE introduced the resource person.

Mr. D. Srinivasulu Reddy explained about Missile block diagram, Missile target engagement scenario, Missile Guidance and its types, Aerodynamic control and Thrust Vector Control and their types also he explained various applications of Artificial Intelligence techniques.

Missile target engagement scenario: After deriving simplified transfer functions for the missile seeker head, missile autopilot, missile dynamics, and target dynamics, a three dimensional simulation is developed using classical proportional navigation.

Missile Guidance and its types: Guidance systems are divided into different categories according to whether they are designed to attack fixed or moving targets. The weapons can be divided into two broad categories: Go-onto-target (GOT) and go-onto-location-in-space (GOLIS) guidance systems. A GOT missile can target either a moving or fixed target, whereas a GOLIS weapon is limited to a stationary or near-stationary target.

Thrust Vector Control: Thrust vectoring, also known as thrust vector control (TVC), is the ability of an aircraft, rocket, or other vehicle to manipulate the direction of the thrust from its engine(s) or motor(s) to control the attitude or angular velocity of the vehicle.

Aerodynamic control: To control a missile accurately via aerodynamic forces, two general types of control surfaces (i. e., primary and secondary controls) are used. Primary control surfaces include ailerons, elevators, rudders, and canards; secondary control surfaces include tabs, spoilers, and slots.

Applications of Artificial Intelligence: Potential applications within the Army Integrated Air and Missile Defense (IAMD) system include Identification and Classification of tracked objects, Defense Design, and Dynamic Planning and Tasking.

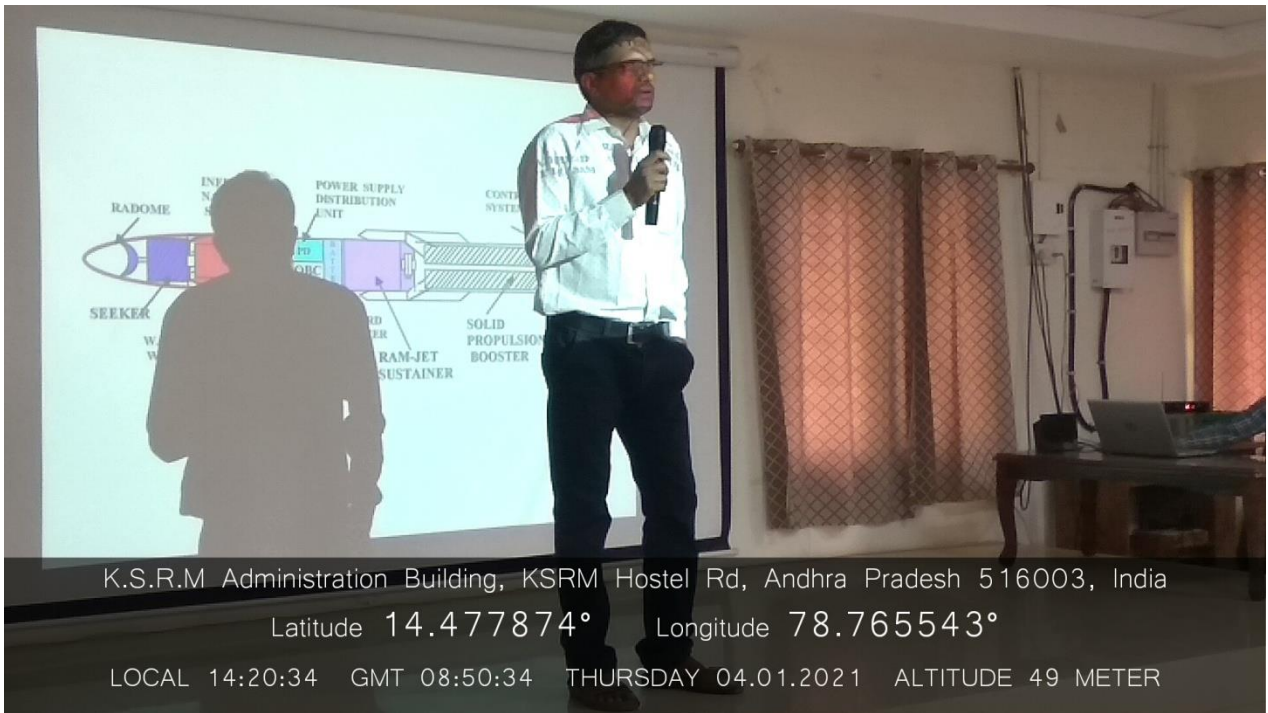


Figure 2 Mr. D. Srinivasulu Reddy delivering lecture



Figure 3 Students attended for the lecture

Around 70 students attended for the Guest Lecture. Later, Mr. N. J. Pramod Dhinakar concluded the session.