



# Sardar Vallabhbhai Patel Institute of Technology, Vasad

## Aeronautical Engineering Department

Aeronautical Engineering Department had organized two days workshop on Design & Sizing of Remotely Controlled Airships". The workshop was organized on 26-27 August, 2021 for our Third year and Final year students. The Expert, **Dr. Rajkumar S Pant, Professor, IIT Bombay conducted this workshop.** Approximately 120 participants were benefitted from this workshop. On the first day an expert had covered the theoretical aspects of conceptual design of indoor RC Airships and on the second day the detailed design, performance and evaluation of LTA RC Airships was analytically performed.

### Event Photographs:

**TWO DAYS  
WORKSHOP ON  
DESIGN & SIZING OF  
REMOTEY  
CONTROLLED  
AIRSHIPS**

26-27  
August, 2021  
10:00 am  
to  
4:00 pm

**Conducted by**  
**Prof. Rajkumar S. Pant**  
Aerospace Engineering Department,  
Indian Institute of Technology Bombay

**Key Contents:**  
Sizing Procedure for R C Airships  
Challenges in Design & Fabrication of R C Airships  
Design Calculations of RC Airships :  
Lift, Drag & Power Estimation  
Performance Estimation

<https://us06web.zoom.us/j/83591889836>  
Meeting ID: 835 9188 9836  
Passcode: 260821  
<https://www.youtube.com/watch?v=YHVIKJ5IBsg>



Organized by  
**Aeronautical Engg. Dept.**  
**SVIT VASAD**



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**Design Methodology**

The flowchart outlines the design process:

- Assume Envelope Length
- Envelope Shape Selection
- Envelope Volume Estimation
- Surface Area Estimation
- Fin Sizing
- CAD Model Creation
- Drag Computation
- Electrical Motor Selection
- Battery & Avionics Selection

Intermediate steps and outputs include:

- Aerostatic Lift Estimation
- Envelope Material Selection & Weight
- Fin Weight
- Electrical Motor Weight
- Battery & Avionics Weight
- Lift - Total Weight = Payload

A decision diamond asks: "Is Payload Requirement Met?". If "No", it loops back to "Change Envelope Length". If "Yes", it leads to "Output".

**Modern Manned Airship**

The image shows a large white airship with blue and red accents, flying against a blue sky. The text "地球工口" and "JEPPESIN NET" are visible on its side.

**Workshop on Indoor R C Airship Design**

Meeting ID: 835 9188 9836  
 Host: Rajkumar S. Pant  
 Passcode: 260821  
 Invite Link: <https://us06web.zoom.us/j/83591889836>  
 Participant ID: 618870  
 Encryption: Enabled

The overall session was very good and informative.

Thank You.

Faculty co-ordinator  
 Niyati Shah  
 Assistant Professor  
 Aeronautical Engg. Dept.  
 SVIT Vasad

Dr. P V Ramana  
 Professor and Head  
 Aeronautical Engg. Dept.  
 SVIT Vasad