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Daniel Hotel
Herzlia

Paul Zarchan
MIT Lincoln Laboratory

Paul Zarchan has more than 35 years of experience designing, analyzing, and evaluating missile guidance systems. He has worked as Principal Engineer for Raytheon Mission Systems Division and has served as Senior Research Engineer with the Israel Ministry of Defense and has worked as Principal Member of the Technical Staff at C.S. Draper Laboratory. Mr. Zarchan is currently working on problems related to theater missile defense as a Member of the Technical Staff for MIT Lincoln Laboratory. He is an Associate Fellow of AIAA, author of *Tactical and Strategic Missile Guidance* and co-author of *Fundamentals of Kalman Filtering: A Practical Approach*, both of which are books in the AIAA Progress in Astronautics and Aeronautics Series.

IAAC the Israeli Association for Automatic Control Course on

missile guidance

Day 1

- Numerical Techniques
- Fundamentals of Tactical Missile Guidance
- Method of Adjoints and the Homing Loop
- Noise Analysis
- Proportional Navigation and Miss Distance

Day 2

- Digital Noise Filters in the Homing Loop
- Advanced Guidance Laws
- Kalman Filters and the Homing Loop
- Endoatmospheric Ballistic Targets
- Extended Kalman Filtering
- Other Forms of Tactical Guidance and Tactical Zones
- Strategic Considerations

Day 3

- Boosters
- Lambert Guidance
- Strategic Intercepts
- Miscellaneous Topics
- Radome Slope Estimation
- Predictor Corrector Guidance

Day 4

- Multiple Target Problem
- Intercept Point Prediction Error for Ballistic Targets
- Boost Phase Estimation
- Theater Missile Defense and Guidance
- Filtering Options For Tracking Exoatmospheric Targets
- Airframe Linearization

Day 5

- Introduction to Flight Control System Design
- The Three Loop Autopilot
- Weaving Targets and Proportional Navigation
- Optimal Guidance Against Weaving Targets
- Filtering and Guidance For Weaving Targets
- Feedback Linearization
- A Filtering Approach For Getting Small Miss Distances
- Comparison of Statistical Digital Simulation Methods

Extra

- Flight Control Compensation
- The Most Unusual Guidance Method
- Other Methods For Guidance Law Development

For registration and further details call 04-8294780 or see the website http://iaac.technion.ac.il/events.html