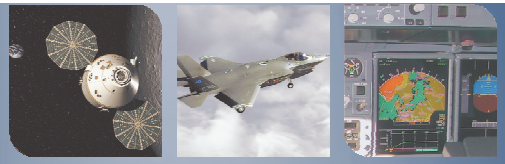
The MathWorks™

MATLAB® & SIMULINK®

Developing Communications and ISR Systems Using MATLAB® and Simulink®



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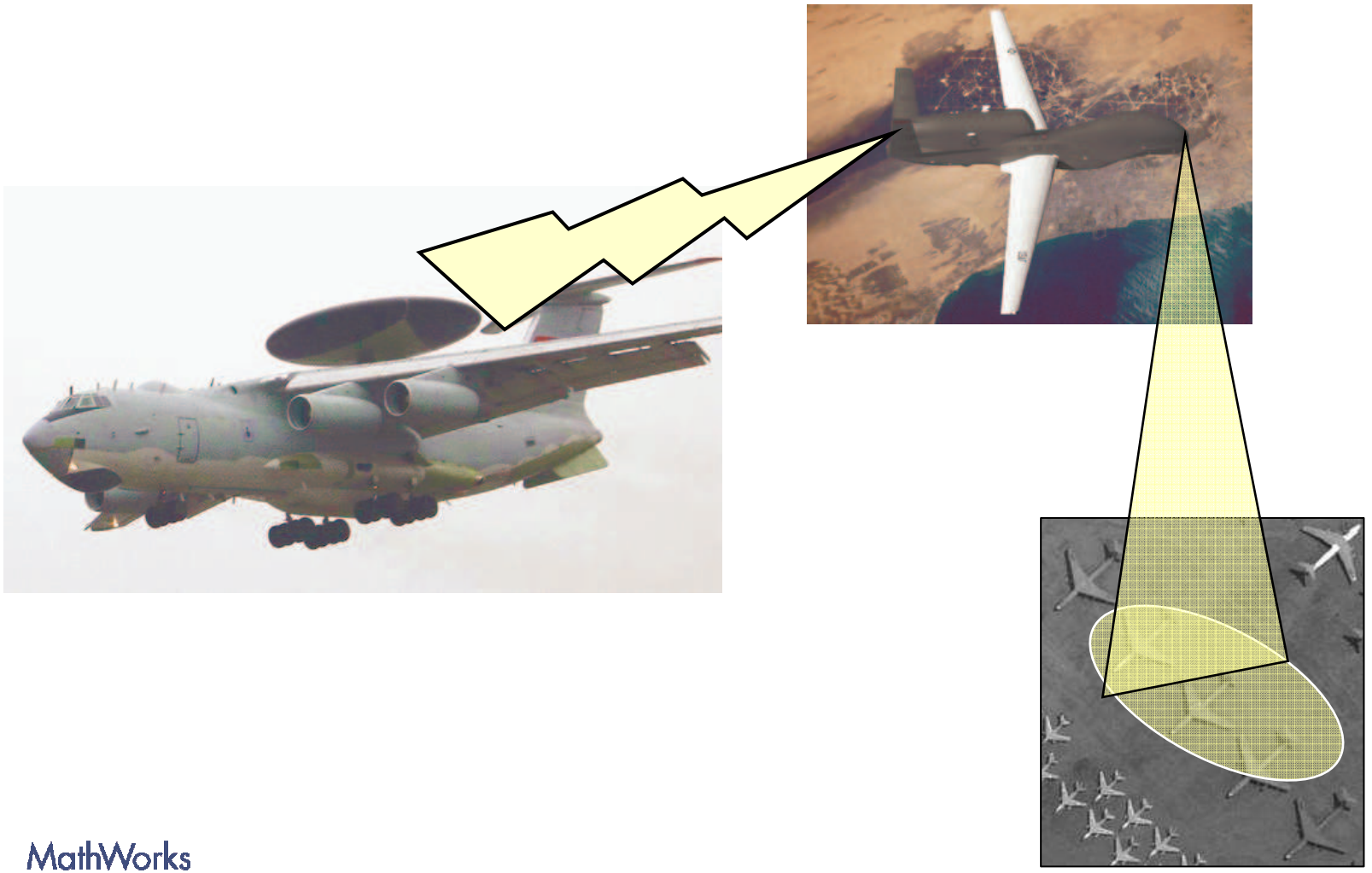
Aerospace and Defence Conference '08

UAV-based Communications and ISR



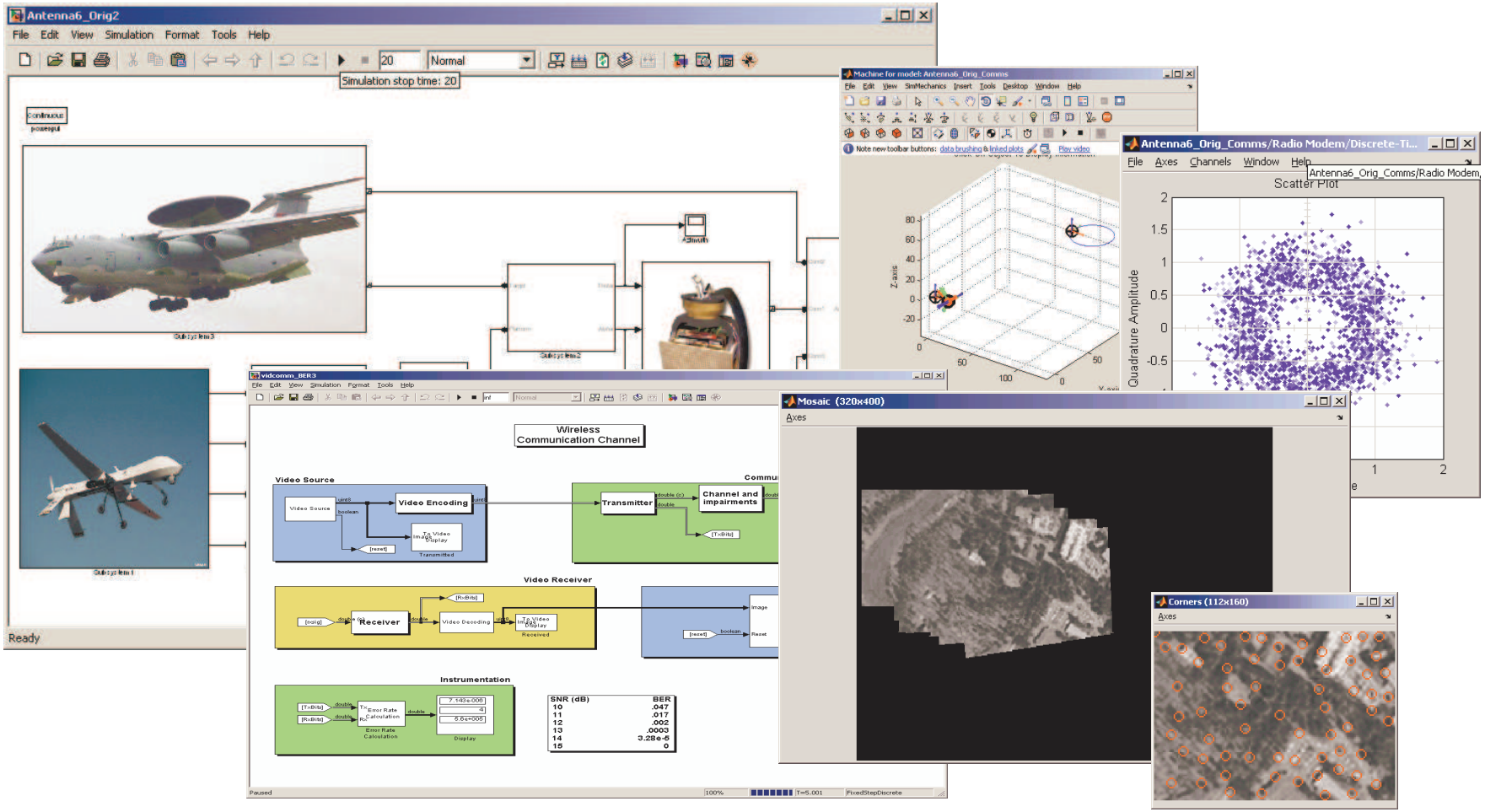
Your Mission: Design and Integrate a Video Communications System for a UAV

- Design and simulate 3 different system components
  - Antenna pointing control
  - Communications link
  - Video codec and post-processing
- Integrate the components to evaluate overall impact on system performance

Demonstration

- What we are going to see:

Demonstration



End Results

- Designed and verified a communications sub-system
- Integrated an antenna pointing model
- Integrated a COTS video codec using the legacy code tool
- Performed verification with a variety of test conditions

- Next step: incorporate this model into a broader system simulation that models flight dynamics, target tracking, etc.

Products Used

- Simulink
  - Embedded MATLAB block
- Video and Image Processing Blockset
  - Segmentation, motion estimation, morphology, and more
- Communications Blockset
  - Source coding, error correction, modulation, and more
  - Interfaces to RF blockset for modeling front-end effects
- Signal Processing Blockset
  - Estimation, filtering, linear algebra, statistics, FFT, and more

Thank You for Attending

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