Claims:

1. A computerized method of simulating a real UxV system comprising a sensing unit operating onboard a UxV configured to communicate over a communication link with a control unit, the method comprising:

using a computer processing device operatively connected to a display device for:

displaying synthetic images on the display device, the synthetic images showing an artificial representation of an environment in which operation of a UxV is being simulated, the images are shown as if viewed from a vantage point of an imaging payload located onboard the UxV;

processing the synthetic images to extract therefrom values of one or more graphic image parameters; and

responsive to a command issued with respect to the synthetic images, comparing the extracted values with respective predefined reference values; the reference values are graphic image parameters values extracted from synthetic images which provide an indication with respect to the synthetic images, as to whether or not execution of the command should be allowed by the simulator, when simulating a certain sensing unit,;

and simulating execution of the issued command only if the comparison between the extracted values and respective reference values complies with at least one predefined condition, thereby increasing similarity between the simulation of an execution of a command and the execution of the command by the real UAV system being simulated.

2. The method according to claim 1 further comprising:

determining whether to allow execution of the command based also on virtual data which defines the physical characteristics of the synthetic images.

3. The method according to claim 1 further comprising adapting the predefined reference values according to performance capabilities of the real sensing unit in order to realistically simulate the operation of the real sensing unit.

4. The method according to claim 1 further comprising adapting the predefined reference values according to performance capabilities of another real sensing unit which is characterized by performance capability which is different than the real sensing unit, in order to realistically simulate the operation of the another sensing unit.

5. The method according to claim 1 further comprising adapting the predefined reference values to match malfunctioning performance of the real sensing unit in order to simulate a defective UxV system and/or defective sensing unit.

6. The method according to any one of the preceding claims, wherein the command is directed for tracking a target displayed in the synthetic images.

7. The method according to any one of the preceding claims wherein the graphic image parameter values include one or more of:

contrast value indicating the difference between the target and the background image; color values; differences in various graphic image parameters characterizing the same objects in different images along a succession of images; products of edge detection; and products of image segmentation.

8. The method according to any one of the preceding claims further comprising: generating synthetic images based on virtual data which defines the physical characteristics of the synthetic images.

9. The method according to any one of the preceding claims wherein the UxV is a Unmanned Aerial Vehicle.

10. A UxV system simulator of a real UxV system comprising a sensing unit operating onboard a UxV configured to communicate over a communication link with a control unit; the simulator comprising:

a computer processing device operatively connected to a display device, the processing device being configured to:

display synthetic images on the display device, the synthetic images showing an artificial representation of an environment in which operation of a UxV is being simulated, the images are shown as if viewed from a vantage point of an imaging payload located onboard the UxV;

process the synthetic images to extract therefrom values of one or more graphic image parameters;

responsive to a command issued with respect to the synthetic images, comparing the extracted values with respective predefined reference values; the reference values are graphic image parameters values extracted from synthetic images which provide an indication with respect to the synthetic images, as to whether or not execution of the command should be allowed by the simulator, when simulating a certain sensing unit,;

and simulate execution of the issued command only if the comparison between the extracted values and respective reference values complies with at least one predefined condition, thereby increasing similarity between the simulation of an execution of a command by the simulator and the execution of the command by the real UAV system being simulated.

11. The simulator according to claim 10 wherein the computer processing device is further configured to:

determine whether to allow execution of the command based also on virtual data which defines the physical characteristics of the synthetic images.

12. The simulator according to claim 10 wherein the computer processing device is further configured to adapt the predefined reference values according to performance capabilities of the real sensing unit in order to realistically simulate the operation of the real sensing unit.

13. The simulator according to claim 10 wherein the computer processing device is further configured to adapt the predefined reference values according to performance capabilities of another real sensing unit which is characterized by performance capability which is different than the real sensing unit, in order to realistically simulate the operation of the another sensing unit.

14. The simulator according to claim 10 wherein the computer processing device is further configured to adapt the predefined reference values to match malfunctioning performance of the real sensing unit in order to simulate a defective UxV system and/or defective sensing unit.

15. The simulator according to any one of claims 10 to 14, wherein the command is directed for tracking a target displayed in the synthetic images.

16. The simulator according to any one of claims 10 to 15 wherein the graphic image parameter values include one or more of:

contrast value indicating the difference between the target and the background image; color values; differences in various graphic image parameters characterizing the same objects in different images along a succession of images; products of edge detection; and products of image segmentation.

17. The simulator according to any one of claims 10 to 16 wherein the computer processing device is further configured to: generate synthetic images based on virtual data which defines the physical characteristics of the synthetic images.

18. The simulator according to any one of claims 10 to 17 wherein the UxV is a Unmanned Aerial Vehicle.

19. A computer-readable non-transitory memory device tangibly embodying a program of instructions executable by the computer for executing a method of simulating a real UxV system comprising a sensing unit operating onboard a UxV configured to communicate over a communication link with a control unit, the method comprising:

using a computer processing device operatively connected to a display device for:

displaying synthetic images on the display device, the synthetic images showing an artificial representation of an environment in which operation of a UxV is being simulated, the images are shown as if viewed from a vantage point of an imaging payload located onboard the UxV;

processing the synthetic images to extract therefrom values of one or more graphic image parameters; and

responsive to a command issued with respect to the synthetic images, comparing the extracted values with respective predefined reference values; the reference values are graphic image parameters values extracted from synthetic images which provide an indication with respect to the synthetic images, as to whether or not execution of the command should be allowed by the simulator, when simulating a certain sensing unit;

and simulating execution of the issued command only if the comparison between the extracted values and respective reference values complies with at least one predefined condition, thereby increasing similarity between the simulation of an execution of a command and the of the execution of the command by the real UAV system being simulated.