CLAIMS

1. System for automatically inspecting a surface of an object, said surface being liable to contain a defect, characterised in that it comprises a fleet (12), comprising at least one flying robot (14, 14a, 14b, 14c), each flying robot comprising:

– a module (26) for acquiring images of at least one portion of the surface to be inspected,

– a module (28) for processing the acquired images, which module is suitable for providing information representative of the state of each inspected surface portion, which information is called the processing result,

the automatic inspection system further comprising a module (18) for managing the fleet (12) of robots, the management module (18) being suitable for determining, from a model of the surface to be inspected, a set of displacement instructions and image acquisition instructions for each robot (14, 14a, 14b, 14c, 16) of the fleet (12).

2. Automatic inspection system according to claim 1, characterised in that the image acquisition module (26) of at least one robot of said fleet comprises at least one camera suitable for acquiring images within the visible light spectrum.

3. Automatic inspection system according to either claim 1 or claim 2, characterised in that it comprises a device (20) for presenting the results of each processing operation performed by each processing module (28) of each robot (14, 14a, 14b, 14c, 16) of the fleet (12), and in that each robot (14, 14a, 14b, 14c, 16) of the fleet (12) comprises a communication module (32) suitable for transmitting results of each processing operation to the presentation device (20).

4. Automatic inspection system according to claim 2 and claim 3 in combination, characterised in that the management module (18) and the presentation device (20) are arranged in a control device (60).

5. Automatic inspection system according to claim 4, characterised in that the control device (60) comprises a human-machine interface suitable for displaying a 3D model of the surface to be inspected and for displaying a representation of a position of each robot of the fleet relative to the surface to be inspected in real time.

– a step of transmitting the result of said processing operation of each robot to a presentation device (20),

– a step of presenting said processing result to a human operator (24).

11. Method of use according to claim 10, characterised in that the step of transmitting the result of said processing operation by each robot is carried out after each processing operation by the processing module (28).

12. Method for automatically inspecting a surface of an object, said surface being liable to contain a defect, characterised in that it comprises:

– a step of acquiring images of at least one portion of the surface to be inspected by each flying robot (14, 14a, 14b, 14c) of a fleet (12) of robots comprising at least one flying robot,

– a step of processing the acquired images in order to provide information representative of the state of each inspected surface portion, which information is called the processing result,

– a step of determining, based on a model of the surface to be inspected, a set of displacement instructions and image acquisition instructions for each robot (14, 14a, 14b, 14c, 16) of the fleet (12).