Claims

What is claimed is:

1. An unmanned aerial vehicle (UAV), comprising:

an envelope structure configured to have a spherically curved outer surface; and

a plurality of propulsion units arranged on the outer surface of the envelope structure,

wherein each of the propulsion units is configured to generate an air stream along on the outer surface of the envelope structure,

wherein each of the propulsion units comprises an impeller coupled to a motor, wherein the impeller is configured to generate the air stream, and

wherein the UAV further comprises a plurality of control units, wherein each of the plurality of control units is configured to control a subset of the plurality of propulsion units.

2. The UAV of claim 1, wherein each of the plurality of control units is configured to:

determine a current position of the unmanned aerial vehicle;

determine a difference between a preset position and the current position;

determine one or more propulsion units of the respective subset of the plurality of propulsion units able to reduce the determined difference; and

operate the determined one or more propulsion units for a predetermined time period.

3. The UAV of claim 1 or 2,

wherein the envelope structure is configured as a blimp.

4. The UAV of any one of claims 1 to 3,

wherein the envelope structure is configured to be impermissible to helium gas.

5. The UAV of any one of claims 1 to 4,

wherein the envelope structure comprises a gas inlet.

6. The UAV of any one of claims 1 to 5,

wherein the envelope structure is formed of an elastic material.

7. The UAV of any one of claims 1 to 6,

wherein the envelope structure is formed as a hollow sphere or a hollow ellipsoid.

8. The UAV of any one of claims 1 to 7,

wherein, in aerial operation of the UAV, the envelope structure comprises a center position; and

wherein a center of mass of the UAV is arranged in a distance to the center position of the envelope structure.

9. The UAV of any one of claims 1 to 8,

wherein the impeller comprises a plurality of vanes attached to a covering structure,

wherein in an air inlet section of the impeller one portion of the vanes is coupled to the motor and the impeller is free of covering structure,

wherein in an air outlet section of the impeller the impeller is free of covering structure, and

wherein adjacent vanes of the plurality of vanes, the covering structure and the motor form a channel structure, wherein the channel structure comprises a first cross-sectional area at the air inlet section and a second cross-sectional area at the air outlet section, wherein the second cross-sectional area is smaller than the first cross-sectional area.

10. The UAV of claim 9,

wherein the envelop structure forms a boundary of the channel structure.

11. The UAV of claims 2 to 10, further comprising, for each of the plurality of control units, a connection structure configured to couple the subset of the plurality of propulsion units with the control unit, wherein the connection structure is arranged on the outer surface of the envelope structure.

12. The UAV of any one of claims 1 to 11,

wherein the envelop structure further comprises a plurality of mounting structures each configured to mount a propulsion unit via an adhesive on the envelop structure.

13. The UAV of any one of claims 1 to 12,

wherein the plurality of propulsion units comprises six propulsion units arranged in a prismatic arrangement on the outer surface of the envelop structure.

14. The UAV of any one of claims 1 to 12,

wherein the plurality of propulsion units comprises five propulsion units arranged in a pyramidal arrangement on the outer surface of the envelop structure.

15. The UAV of any one of claims 1 to 12,

wherein the plurality of propulsion units comprises four propulsion units arranged in a tetrahedrical arrangement on the outer surface of the envelop structure.

16. The UAV of any one of claims 1 to 15,

wherein the control units of the plurality of control units are communicatively coupled with each other.

17. The UAV unit of claim 9 or 10,

wherein the vanes and the covering structure are formed from one piece.

18. The UAV unit of claim 9, 10 or 17,

wherein the vanes comprise a straight shape or are formed in a straight shape.