CLAIMS

1. A system (10) for motion damping of a floating marine structure (12), the system (10) comprising:

- at least one dampening device (20) configured to dampen a movement in one direction and allowing a movement in the opposite direction essentially without damping interaction, and

- a suspension arrangement (30) comprising a respective wire (32) configured to suspend the at least one dampening device (20) hanging at a suspended depth in the water from the marine structure (12) and with the at least one dampening device (20) oriented so that a dampening force induced by the least one dampening device (20) is subjected in the extension of the wire (32),

characterised in that each dampening device (20) is a passive damping device comprising a valve structure (62) configured to dampen a movement in one direction and allowing a movement in the opposite direction essentially without damping interaction, wherein each dampening device (20) comprises a support structure (60) extending in a parabolic surface comprising the valve structure (62) and a plurality of openings (64), wherein the valve structure (62) configuration is provided by slits covering the plurality of openings (64) thereby preventing water from passing in the direction of slits to the plurality of openings (64) but letting water pass in the direction of the plurality of openings (64) to the slits.

2. The system (10) according to claim 1, wherein the suspension arrangement (30) comprises a wire control arrangement (40) configured to control said suspended depth of the at least one dampening device (20) in the water.

3. The system (10) according to any of claim 1 and 2, wherein the suspension arrangement (30) comprises a control unit (50) configured to receive information on a movement of the marine structure (12), determine a desirable depth of the at least one dampening device (20), and, based on the determined desirable depth, send control information to the wire control arrangement (40) such that the suspended depth of the at least one dampening device (20) in the water is controlled by means of the wire control arrangement (40).

4. The system (10) according to claim 3, wherein the suspension arrangement (30) comprises at least an upper position and a lower position of the at least one dampening device (20), wherein the control unit (50) is configured to determine the at least upper position and lower position based on information on the movement of the marine structure (12) and send control information to the wire control arrangement (40) based on the determined at least upper position or lower position.

5. The system (10) according to claim 4, wherein the control unit (50) is configured to determine the at least upper position and the lower position so that a stress subjected to the system (10) is not exceeding a threshold value.

6. The system (10) according to any of claims 4-5, wherein the control unit (50) is configured to continuously determine the at least upper position and lower position.

7. The system (10) according to any of claims 3-6, wherein the wire control arrangement (40) comprises a respective remotely controllable winch for the at least one dampening device (20) configured to control said suspended depth of the at least one dampening device (20) in the water, wherein the control unit (50) is configured to send control information to the respective winch based on the information on the movement of the marine structure (12) for setting said suspended depth of the at least one dampening device (20) in the water
wherein the winch is configured to be attached to the marine structure (12), the winch comprising a wire drum to which the wire is winded to or unwound.

8. The system (10) according to any of claims 3-7, wherein the information on the movement of the marine structure (12) comprises information on heave and pitch of the marine structure (12), wherein the control unit (50) is configured to determine the at least upper position and lower position based on a function of heave and pitch of the marine structure (12) information.

9. The system (10) according to any of claims 3-8, wherein the information on the movement of the marine structure (12) further comprises information on surge, sway, roll and yaw, wherein the control unit (50) is configured to determine the at least upper position and lower position based on a function of heave and pitch of the marine structure (12)

together with at least one of information on surge, sway, roll and yaw of the marine structure (12).

10. The system (10) according any of claims 3-9, wherein the suspension arrangement (30) comprises a motion sensor (52) at the marine structure (12) configured to provide said motion information to the control unit (50), wherein the control unit (50) is configured to determine a desired suspended depth of the at least one dampening device (20) based on said motion information.

11. The system (10) according to claim 10, wherein the motion sensor (52) is one of an angular rate sensor and a gyroscope.

12. The system (10) according to any of claims 3-11, wherein the suspension arrangement (30) comprises continuous positions between the at least upper position and lower position of the at least one dampening device (20), wherein the control unit (50) is configured to determine any position between and including the upper position and the lower position of the at least one dampening device (20).

13. The system (10) according to any of the claims 1-12, wherein the suspension arrangement (30) comprises a spacer element (34) connected to the marine structure (12) and configured to hold the at least one dampening device (20) at a distance from the floating marine structure (12).

14. The system (10) according to any of the claims 1-13, wherein the system (10) comprises two or more dampening devices (20) symmetrically arranged around the floating marine structure (12).

15. An arrangement (1) for motion damping of a floating marine structure (12) and a system (10) according to any of claims 1-14 attached to the floating marine structure (12).

16. The arrangement (1) according to claim 15, wherein the floating marine structure (12) is a spar construction.

17. The arrangement (1) according to any of claim 15 and 16, wherein the floating marine structure (12) comprises a tower holding a wind turbine.

18. Method for motion damping of a floating marine structure (12) by means of a system (10) according to any of claims 1-14, wherein the method comprises:

- receiving information on a movement of the marine structure (12),
- determining a suspended depth of the at least one dampening device (20) based on said information, and
- setting the at least one dampening device (20) to the determined depth by means of the wire control arrangement (40).

19. Use of a system (10) according to any of claims 1-14 for motion damping of a floating marine structure (12).