

ABSTRACT

TWIN-HULL BOAT WITH HYDROFOILS

A novel twin hull boat equipped with a pair of hydrofoils 3 and 4 comprising; a plurality of independently driven auxiliary wings 5/5 and 6/6 respectively being secured to both ends of a front hydrofoil 3 and a rear hydrofoil 4 secured to the bottom of the hull 1; a height sensor 11 for measuring height of the stem from water surface; a pair of inertia sensors or gyroscopes 13A and 13B for detecting rolling and pitching angles of the hull 1; a wing-angle sensor 10 for detecting angles of the auxiliary wings 5/5 and 6/6; and a controller 14 for controlling height of the stem constant, preventing the front hydrofoil 3 from coming out of water surface, and also controlling rolling and pitching behaviors of the hull 1 by driving the auxiliary wings 5/5 and 6/6 in accordance with a specific control mode selected by control-mode-setting switches 21 and 22.

(Please note that Figure 2 should accompany the abstract when published)