



Journal of the Japan Society of
Naval Architects and Ocean Engineers
The Japan Society of Naval Architects and Ocean Engineers

[Available Volumes](#) | [Japanese](#) >> [Publisher Site](#)

Author: [ADVANCED](#) | Volume Page
Keyword:



[TOP](#) > [Available Volumes](#) > [Table of Contents](#) > Abstract

ONLINE ISSN : 1881-1760

PRINT ISSN : 1880-3717

Journal of the Japan Society of Naval Architects and Ocean Engineers

Vol. 5 (2007) pp.27-33

[\[PDF \(812K\)\]](#) [\[References\]](#)

A Study on Wing Sections for the Switch-Back Motion of Very Large Mobile Offshore Structure

[Ken Takagi](#) and [Yuichiro Yoshitake](#)

(Accepted February 2, 2007)

Summary: A concept of sailing type Very Large Mobile Offshore Structure for the wind-power generation, which is abbreviated to VLMOS, is presently being studied in Japan. VLMOS keeps its position with the switch-back motion in which strut wings play an important role to counter the drag force acting on wind turbines. The sectional shape of the strut wing should be symmetrical in cord direction and should have sharp edges at both ends because of the switch-back motion with which VLMOS advance against the wind. We mainly focus on the flow separation around the strut wing in this paper, since the flow separation is key-information for conceptual design of the strut wing. Three types of strut wing are tested to know the effect of wing thickness on the flow separation around the strut wing. Measurements of the lift and drag forces have been carried out as well as the flow visualization. In addition, the effect of a turbulent stimulator on the measured results is investigated to know the performance of full scale strut wing. From these results we find that thick wing brings large flow separation occurring at the rear of the wing, and it is not suitable for the strut wing of VLMOS. A relatively thin wing section whose flow separation is negligibly small is recommended from results of the measurement without turbulent stimulator. The measurement with turbulent stimulator confirms that this wing section has enough performance for the full scale strut wing of VLMOS.

[\[PDF \(812K\)\]](#) [\[References\]](#)

Download Meta of Article [\[Help\]](#)

[RIS](#)

[BibTeX](#)

To cite this article:

Ken Takagi and Yuichiro Yoshitake: A Study on Wing Sections for the Switch-Back Motion of Very Large Mobile Offshore Structure , Journal of the Japan Society of Naval Architects and Ocean Engineers, (2007), Vol. 5, pp.27-33 .

Copyright (c) 2007 The Japan Society of Naval Architects and Ocean Engineers



[Japan Science and Technology Information Aggregator, Electronic](#)

