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FRV "Clupea"

Cruise 2/87

REPORT

9-27 February 1987

Personnel	Part I 9-18 Feb		Part II 19-27 Feb	
	J Main	SSO (in charge)	G G Urquhart	PSO (in charge)
	C D Hall	HSO	J Hunter	PTO
	S L Greenlees	ASO	N Collie	PTO
	P J Barkel	PTO	S L Greenlees	ASO
	A Strickland	Visitor	T Larrinaga	Visitor

Objectives

Part I

1 To obtain video film of vee and flat doors using the remote controlled television vehicle (RCTV) and to study the causes of instability at low angles of attack, particularly during shooting procedures.

2 To commission the new data logging system using a BBC computer with a micro link data capture system.

Part II

3 To obtain engineering performance data on three sizes of flat doors in deep and shallow water when operating at optimum efficiency, to determine the variation of lift and drag coefficients with speed, angle of attack, heel and pitch angles.

Narrative

Fishing gear was loaded and rigged for operation on Monday 9 February. Due to bad weather conditions, "Clupea" was unable to sail on Tuesday 10.

The vessel worked daily from 11 to 17 February with one break when the vessel returned to port to replace a faulty television cable.

At the half landing the RCTV and television equipment was off loaded and returned to Aberdeen by lorry.

During the second half "Clupea" sailed daily from Buckie returning to port to change over doors and make alterations to the warp and backstrop attachment points. Ten hauls were made at the Bellans and six in the South Deeps. Most of the hauls were comprehensively instrumented with up to 25 parameters recorded per haul.

Results

Comprehensive recordings of the behaviour of two sets of vee boards and one set of flat boards towing at various speeds were recorded on video tape.

Attempts to find a satisfactory method of filming the shooting procedure of the trawl doors were unsuccessful at both fast and slow speeds because the RCTV was unable to reach the doors at the short warp lengths.

The new gear-data logging system, using a BBC computer with a micro link interface was fully tested during 12 hauls, each with a variety of ship-borne and underwater instruments, including Scanmar equipment.

A new backstrop anglemeter to allow estimation of door angle of attack was tested during 4 hauls. Using the RCTV, the anglemeter was seen to perform well in practice.

It was decided during Part II not to attempt tests on the largest set of flat doors but to concentrate efforts on the medium and small doors which are later matched to the gear. The best configuration for maximum spreading power was found in each case. Particular attention was given to the angle of attack calculated from measurements made using the new backstrop anglemeter. As expected, maximum efficiency was obtained at angles of attack lower than normal. The results will be fully analysed in the Laboratory.

The on-line logging system operated faultlessly and the underwater instruments achieved about 85% success rate. Some initial problems were experience with the new system software but these were overcome and good sets of integrated data were produced for all hauls.

J Main
G G Urquhart

9 March 1987

Seen in draft: W Smith