

NOTIFICATION OF PROPOSED RESEARCH CRUISEGENERAL
PART A

1. Name of ship **FS 'POSEIDON'**
2. Dates of cruise from **01.08.2016, Reykjavik** to **24.08.2016 Bremerhaven**
3. Operating Authority **GEOMAR**
Helmholtz-Zentrum für Ozeanforschung Kiel
Wischhofstraße 1-3
D-24148 KIEL
Telephone +49 (0)431- 600 2132
Telefax +49 (0)431- 600 1601
E-Mail klackschewitz@geomar.de
4. Owner (if different from para 3)
5. Particulars of ship:
- | | |
|-----------------|-------------------------------------|
| Name | POSEIDON |
| Nationality | German |
| Overall length | 60,80 metres |
| Maximal draught | 4,90 metres |
| BRT | 1105 BRT |
| Propulsion | Diesel Electric |
| Call Sign | DBKV |
| IMO no. | 7427518 |
| MMSI no. | 211204360 |
| Telephone | INMARSAT 00870761651773 |
| Telefax | INMARSAT 00870600273636 |
| E-Mail | bruecke@poseidon.briese-research.de |
6. Crew Name of Master **Matthias Günther**
No of Crew **15**
7. Scientific Personnel
- | | |
|---|--|
| Name and address of
Scientists in charge | Prof. Dr. Detlef Quadfasel |
| Phone/Fax | +49 40 42838-5756 // -4644 |
| E-Mail | detlef.quadfasel@uni-hamburg.de |
| No of Scientists | 11 |
8. Geographical area in which ship will operate (with reference to latitude and longitude)
61°N – 68°N 34°W – 5° W
9. Brief description of purpose of cruise
- (1) Investigation of water mass distribution on the Greenland shelf**
(2) Exchanges across the Greenland Scotland Ridge
(3) Assessment of topographic influence on small scale mixing

10. Dates and names of intended ports of call

Reykjavik, Iceland, in between July 28 and August 2, 2016 for 72 hours
(intended so far July 29 to August 1, 2016)

Reykjavik, Iceland, in between August 8-14, 2016 for 24 hours
(exchange of personnel only, intended so far August 10-11, 2016)

11. Any special logistic requirement at ports of call:

Crew change, loading and unloading of equipment and provisions bunkering

DETAIL

PART B

1. Name of research ship POSEIDON Cruise No. **POS503**
2. Dates of cruise from **01.08.2016, Reykjavik** to **24.08.2016, Bremerhaven**
3. Purpose of research and general operational methods.

(1) Investigation of water mass distribution on the Greenland shelf

(2) Exchanges across the Greenland Scotland Ridge

(3) Assessment of topographic influence on small scale mixing

Shipborne hydrographic and mooring work

4. Attach chart showing (on an appropriate scale) the geographical area of the intended work, positions of intended stations, tracks of survey lines, positions of moored/seabed equipment.
- see map attached -
5. Types of samples required e.g. Geological/Water/Plankton/Fish/Radioactivity/Isotope

Water column samples

and methods by which samples will be obtained (including/dredging/coring/drilling).

CTD Rosette system

6. Details of moored equipment:

Planned mooring recoveries:

name	deployment date	description	latitude	longitude	depth
DS2-15	25.06.2015	ADCP frame	66° 07.48' N	27° 16.06' W	590 m
DS1-15	25.06.2015	ADCP frame	66° 04.86' N	27° 04.78' W	660 m
DS25-15	14.06.2015	RCM with buoyancy	66° 17.00' N	27° 59.28' W	390 m
DS26-15	14.06.2015	RCM with buoyancy	66° 25.22' N	28° 24.05' W	320 m
DS27-15	14.06.2015	RCM with buoyancy	66° 34.20' N	28° 48.07' W	320 m
DS28-15	14.06.2015	RCM with buoyancy	66° 37.68' N	29° 15.29' W	320 m
DS29-15	24.06.2015	RCM with buoyancy	66° 50.84' N	29° 39.37' W	300 m
DS30-15	24.06.2015	RCM with buoyancy	66° 57.06' N	30° 00.37' W	310 m

Planned mooring deployments:

name	description	latitude	longitude	approx. depth
DS2-16	ADCP with buoyancy	66° 07.25' N	27° 16.72' W	580 m
DS1-16	ADCP with buoyancy	66° 04.59' N	27° 04.84' W	620 m
WICE-P1-16	PIES	64° 23.86' N	11° 57.51' W	425 m
WICE-P1-16	PIES	64° 12.01' N	12° 16.83' W	500 m
WICE-ADCP1	ADCP frame	64° 29.13' N	12° 08.19' W	270 m
WICE-ADCP2	ADCP frame	64° 27.57' N	12° 05.03' W	370 m
WICE-ADCP3	ADCP frame	64° 25.90' N	12° 01.63' W	400 m
WICE-ADCP4	ADCP frame	64° 23.86' N	11° 57.51' W	425 m

The deployment positions are ± 10 nm and will be adjusted during the cruise, when data of the local water column are available. ADCP mooring recoveries are planned for summer 2017, the PIES will remain on their position for three years.

7. Explosives:

none

- (a) Type and Trade Name
- (b) Chemical content
- (c) Depth of Trade class and stowage
- (d) Size
- (e) Depth of detonation
- (f) Frequency of detonation
- (g) Position in latitude and longitude
- (h) Dates of detonation

8. Detail and reference of

- (a) Any relevant previous/future cruises

Poseidon P418, P437, MERIAN MSM21/1, Poseidon P471, Poseidon P486

- (b) Any previously published research data relating to the proposed cruise. (Attach separate sheet if necessary)

Jochumsen, K., M. Köllner, D. Quadfasel, S. Dye, B. Rudels and H. Valdimarsson (2015): On the origin and propagation of Denmark Strait Overflow Water Anomalies in the Irminger Basin, J. Geophys. Res., 120(3), pp. 1841–1855, doi:10.1002/2014JC010397.

Fischer, J., J. Karstensen, R. Zantopp, M. Visbeck, A. Biastoch, E. Behrens, C. Böning, D. Quadfasel, K. Jochumsen, H. Valdimarsson, S. Jónsson, S. Bacon, N. P. Holliday, S. Dye, M. Rhein, and C. Mertens (2015): Intra-seasonal variability of the Deep Western Boundary Current in the western subpolar North Atlantic. Progress in Oceanography, 132, pp. 233-249, doi:10.1016/j.pocean.2014.04.002.

Paka, V., V. Zhurbas, B. Rudels, D. Quadfasel, A. Korzh, and D. Delisi (2013): Microstructure measurements and estimates of entrainment in the Denmark Strait overflow plume. Ocean Sci. Discuss., 10, 1067-1098, doi:10.5194/osd-10-1067-2013.

Jochumsen, K., D. Quadfasel, H. Valdimarsson and S. Jonsson (2012): Variability of the Denmark Strait Overflow: moored time series from 1996-2011, J. Geophys. Res., 117, doi:10.1029/2012JC008244.

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Serra, N., R. H. Käse, A. Köhl, D. Stammer, and D. Quadfasel, (2010): On the low-frequency phase relation between the Denmark Strait and the Faroe-Shetland Channel dense overflow. Tellus, 62, 530-550, doi: 10.1111/j.1600-0870.2010.00445.

Voet, G. and D. Quadfasel (2010): Entrainment in the Denmark Strait overflow plume by meso-scale eddies. Ocean Sci. 6, 301-310.

9. Names and addresses of scientists of the coastal state in whose waters the proposed cruise takes place with whom previous contact has been made.

Dr. Hedinn Valdimarsson, Marine Research Institute, Reykjavik, hv@hafro.is

10. State:

- (a) Whether visits to the ship in port by scientists of the coastal state concerned will be acceptable.

Yes

- (b) Whether it will be acceptable to carry on board an observer from the coastal state for any part of the cruise and dates and ports of embarkation/disembarkation.

Yes, after discussion

- (c) When research data from the intended cruise is likely to be made available to the coastal state and if so by what means.

After the cruise / recovery of moored instruments:

- Cruise Report three months after finishing the research cruise.
- Scientific publication within the following three years.

SCIENTIFIC EQUIPMENT

COASTAL STATE :

Iceland

11. Complete the following table - SEPARATE COPY FOR EACH COASTAL STATE
(INDICATE 'YES' OR 'NO')

List of all major Marine Scientific Equipment it is proposed to use and indicate waters in which it will be deployed.	Fisheries Research Within Fishing Limits	Research concerning Continental Shelf out to coastal state's margin	DISTANCE FROM COAST		
			Within 12 NM	Between 12-50 NM	Between 50-200 NM
CTD-Rosette	No	Yes	Yes	Yes	Yes
Underway CTD	No	Yes	Yes	Yes	Yes
Ship ADCP	No	Yes	Yes	Yes	Yes
Surface Thermosalinograph	No	Yes	Yes	Yes	Yes
Multibeam Echosounder	No	Yes	Yes	Yes	Yes

Dated: 20.01.2016

D. Lenz
Klas S. Lach

Dr. Klas S. Lach (Principal Scientist)
GEOMAR
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Wischhofstraße 1-3
24148 Kiel

Appendix: Planned cruise track of RV POSEIDON cruise POS503

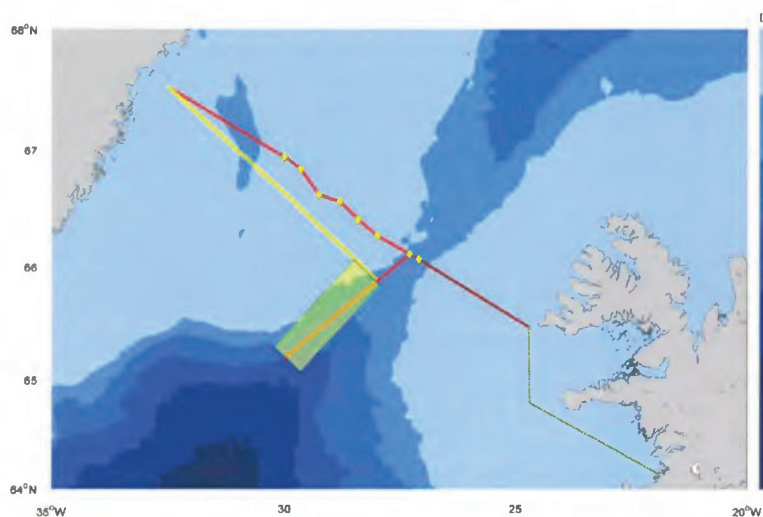


Figure 1: Planned track of cruise POS503 in the working region west of Iceland (Leg1). The mooring positions are indicated with yellow markers. Only the two moorings in the deep channel of Denmark Strait will be redeployed at a similar position. Red lines depict sections with CTD and current measurements; yellow lines and black dotted lines are transits. The shaded box in southern Denmark Strait highlights the region where the Multibeam Echosounder will be used to derive the bottom topography.

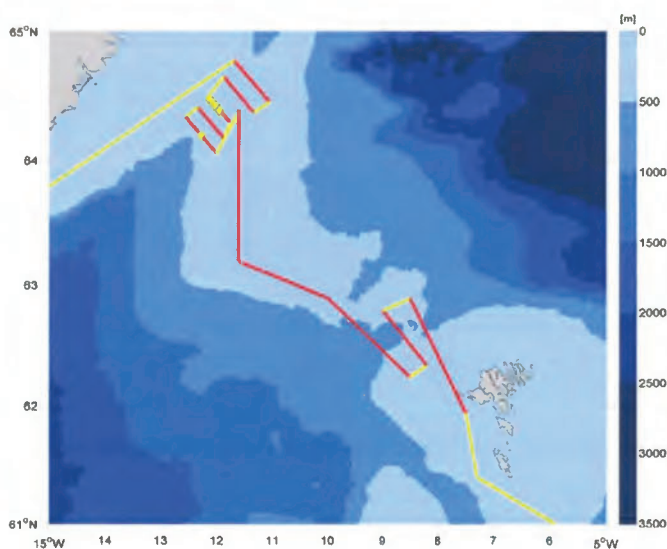


Figure 2: Planned track of cruise POS503 in the working region east of Iceland (Leg2). Mooring/PIES positions are indicated with yellow markers. Red lines depict sections with CTD and current measurements; yellow lines are transits. The Leg starts after a short port call in Reykjavik on August 10-11 for the exchange of personnel. Ending harbor will be Bremerhaven.