

特定領域研究「大気海洋物質循環」 英文原稿作成要領

- 1) 英文単行本の原稿量について、計画研究班は 10,000-15,000 words、公募班は 5000-8000 words の本文と 10 枚以下の写真・図表で執筆する。
- 2) 用紙サイズは A4 とし、上下は 30mm、左右は 25mm の余白を取る。文字数および行数は、MS-Word の「標準文字数を用いる」とする。1 ページ目及び 2 ページ目以降の様式を添付ファイルとして送付する。このテンプレートを利用し、上書きすれば、原稿の統一がとれる。
- 3) ヘッダーは上から 10mm とし、左詰めで研究項目班名－研究班名（例：A01-1、A01-K1）、また右詰めでページ番号を 10pt Times New Roman でつける。なお、フッター中央には事務局で全体の通しページをつける。
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- 6) 1 行空け、中央にキーワードを記載する。11pt Times New Roman
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- 9) 写真・図表は、Photo 1, Figure 1, Table 1 のように記す。
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Richards (1965), (Richards, 1965; Richards and Broenkow, 1971). When there are more than two authors, the first author's name and et al. can be used. All references should be listed separately in alphabetical order according to the first author's last name. Citations must be complete according to the following examples:

Article:

Cox, R. A., M. J. McCartney and F. Culkin (1970): The specific gravity/salinity/ temperature relationship in natural sea water. *Deep-Sea Res.*, **17**, 679-689.

Book:

Sverdrup, H. U., M. W. Johnson and R. H. Fleming (1942): *The Oceans: Their Physics, Chemistry and General Biology*. Prentice-Hall, Englewood Cliffs, New York, 1087 pp.

Chapter:

Goldberg, E. D. (1965): Minor elements in sea water. p. 163-196. In *Chemical Oceanography*, Vol. 1, ed. by J. P. Riley and G. Skirrow, Academic Press, New York.

特定領域研究「大気海洋物質循環」英文原稿作成例

ATMOSPHERIC DEPOSITION OF PARTICULATE TRACE METALS AND ORGANIC CARBON TO THE OCEAN AND PRODUCTION PROCESSES OF MARINE AEROSOLS

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Keywords: Sea salts; Kosa; Hygroscopic; Water-soluble; Internal Mixture; Refractive Index

INTRODUCTION

Recently there are many observations of marine aerosol because marine aerosols are important in the field of climate change and circulation of material. However, there are some problems in the measurements. It is difficult to measure the size distribution of atmospheric aerosol in laboratory because humidity of sample is different between outdoor and indoor. The artifact of sample on the filter is also a sever problem in chemical analysis. The purpose of this study is to solve these problems and measure size distribution and chemical components more exactly to investigate the properties and distribution of marine aerosols.

METHODS

The size distributions from 4.4 nm to 5000 nm in diameter were measured with two systems consisting of a scanning mobility particle sizer (SMPS)(TSI Inc., 3936N or 3936L) and two optical particle counters (OPCs)(RION Co. Ltd., KC18 and KC01D). One system consisting of a SMPS and two OPCs was used to measure the size distribution in dry condition and the other consisting of a TDMA and OPCs was used to measure that in wet condition¹⁾. For submicron particles, monodisperse aerosols were generated with the first DMA (TDMA), humidified with Nafion tube, and measured with the second DMA (SMPS). Urban aerosols were measured in Tokyo seasonally.

Table 1 Cruise schedule during this project.

cruise	schedule	area	on board	Humidity Profile	Individual Bulk	Radon
KH-02-03	2002.9.9-10.25	around Japan Is.	ORI			
MR03-K01	2003.2.20~ 3.30	NW Pacific	TUS, ORI			
KH-03-1	2003.5.13~ 9.8	C, E Pacific	ORI			
KH-04-1	2004.3.4~ 22	South Japan Is.	TUS, ORI			
KH-04-3	2004.7.13~ 8.25	NW Pacific	ORI			x
MR04-07	2004.11.17~ 12.10	NW Pacific	TUS			
KH-05-2	2005.8.8~ 9.21	W, C Pacific	TUS, ORI			

Marine aerosols were measured in the expeditions of R/V Hakuho Maru and Mirai, Japan Marine Science and Technology Center (JAMSTEC) listed in Table 1.

RESULTS AND DISCUSSION

1. KH-04-1 expedition

Marine aerosols were measured in the R/V Hakuho Maru KH-04-01 expedition during the periods from 4 to 21 March in 2004 (Fig. 1). ●●●●●

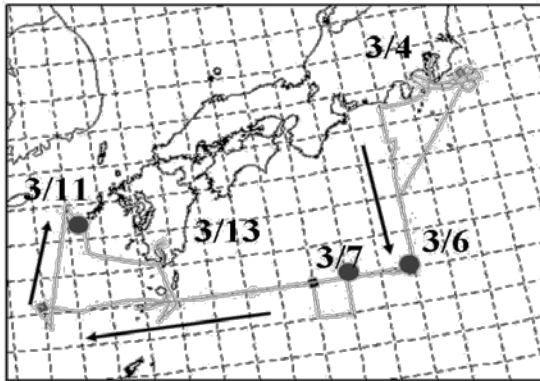


Figure 1 Track chart of the KH-04-1 cruise.

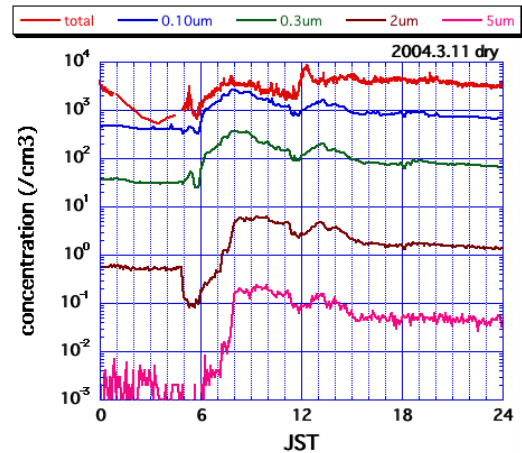


Figure 2 Diurnal variation of dry particle concentration measured on 11 March.

There was a rain with a cold front at 5 o'clock so that the larger particles decreased. After the rain, particles increased from 6 o'clock. ●●●●●

Humidity properties of marine aerosols

Humidity properties of Kosa event on 11 March were measured three times, at 9:20, 13:50, and 17:30. Monodisperse aerosol of 150 nm in diameter at low relative humidity (RH) grew all at high RH with wide distributions as shown in Fig. 3. Figure 4 shows the relations of growth factor and

2. MR03-K01 expedition

Marine aerosols were measured in the R/V Mirai MR03-K01 expedition during the periods from 20 Feb. to 30 March in 2003. A balloon-borne observation was performed on the deck.

CONCLUSIONS

We took part in seven cruises during the project. During the intensive observation period of A01 group we measured PM_{2.5}, TC, EC, and so on in Tokyo. Main results are as follows:

ACKNOWLEDGEMENTS

We are grateful to the directors, the researchers, the captains, and the crews of the R/V Hakuho Maru and R/V Mirai for their helps.

REFERENCES

Running Title: Marine Aerosol Characterization