

**ENERGETICS AND DYNAMICS OF THE MIDDLE  
AND THE UPPER ATMOSPHERE AT  
HIGH SOUTHERN LATITUDES**

### **Editorial Board**

Editor-in-Chief: Tatsuro MATSUDA

Editors: Takeo HIRASAWA	Takao HOSHIAI	Katsutada KAMINUMA
Sadao KAWAGUCHI	Kou KUSUNOKI	Shinhachi NISHIKAWA
Takasi OGUTI	Natsuo SATO	Kanenori SUWA
Masayuki TANAKA	Tetsuya TORII	Keizo YANAI
Yoshio YOSHIDA	Torao YOSHIKAWA	

Executive Editor: Mitsuo FUKUCHI

MEMOIRS OF NATIONAL INSTITUTE OF POLAR RESEARCH  
SPECIAL ISSUE No. 38

---

**ENERGETICS AND DYNAMICS OF THE  
MIDDLE AND THE UPPER ATMOSPHERE  
AT HIGH SOUTHERN LATITUDES**

**Collected papers presented to the SCAR Workshop  
at Bremerhaven, September 25-28, 1984**

*Edited by*

*Takesi NAGATA*

PUBLISHED BY NATIONAL INSTITUTE OF POLAR RESEARCH

---

TOKYO

DECEMBER 1985

**Memoirs of National Institute of Polar Research**  
**Special Issue, No. 38**

**ENERGETICS AND DYNAMICS OF THE MIDDLE  
AND THE UPPER ATMOSPHERE AT  
HIGH SOUTHERN LATITUDES**

**Collected papers presented to the SCAR Workshop  
at Bremerhaven, September 25–28, 1984**

**Takesi NAGATA, *Editor***

**Copyright 1985 by National Institute of Polar Research  
9–10, Kaga 1-chome, Itabashi-ku, Tokyo 173**

**Printed by Yoshida Printing Co., Ltd.**