Presented at European Geophysical Socity XIII General Assembly, Bologna, 21-25 March 1988.

MODAL DECOMPOSITION AND ENERGY CONTENT IN 1985-1986 POEM COORDINATED SURVEYS IN THE LEVANTINE BASIN

E. ÖZSOY (Institute of Marine Sciences, METU, P.K. 28, Erdemli, Icel, Turkey)
A. HECHT (Israel Oceanographic & Limnological Research Ltd., Tel Shikmona, POB 8030, Haifa, Israel)
Ü. ÜNLÜATA (Institute of Marine Sciences, METU, P.K. 28, Erdemli, Icel, Turkey)

Objectively analysed streamfunction data sets from two POEM coordinated cruises in 1985-1986 are decomposed into modal components using the stability frequency N^2 vs. depth obtained from the same surveys. The vertical structure equation is solved for these given N^2 profiles to determine the baroclinic modal amplitudes and the corresponding eigenvalues in terms of baroclinic Rossby radii. The APE and baroclinic KE components of energy in the total field and within each vertical mode are investigated and plotted as a function of depth.

The vertical structure functions are different for the two seasons depending on the mean stratification. The total APE is an order of magnitude larger than the KE and peaks up at intermediate depths while the KE is a maximum at the surface layers. The first baroclinic mode is dominant, while the higher modes are not unimportant.

The stratification parameters obtained from horizontally averaged standard depth profiles and those obtained directly from individual processed profiles and averaged over the field are compared. Double diffusive regimes are demonstrated in the mean profiles.

SUBMITTAL INFORMATION
1. EMIN ÖZSOY
   Institute of Marine Sciences, Middle East Technical Univ., P.K. 28, Erdemli, Icel, Turkey
2. W.11.3 Oceanography in WOCE and POEM
3. Prof. A.R. Robinson
4. -
5. Oral presentation

EUROPEAN GEOPHYSICAL SOCIETY
XIII GENERAL ASSEMBLY

Bologna
21 – 25 March 1988

PROGRAMME

EGS Congress Office
Palazzo Re Enzo
Piazza Maggiore
I-40124 Bologna
Tel: (39)-51-273832
Tx : 520634 infnbo i
Fax: (39)-51-247244

Programme Committee

Dr. A.K. Richter
MPI für Aeronomie
Postfach 20
D-3411 Katlenburg-Lindau
Fed. Rep. Germany
Tel: (49)-5556-411
Tx : 965527 aerli d
Fax: (49)-5556-41240

Local Organising Committee

Prof. A. Speranza
Dept. of Physics
Via Irnerio 46
I-40126 Bologna
Italy
Tel: (39)-51-244190
Tx : 520634 infnbo i
Fax: (39)-51-247244