PHYSICS AND ASTRONOMY
COLLOQUIUM

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"Tools of oceanography – The Thermodynamic Equation of Seawater 2010"

Abstract

Seawater is a complicated liquid whose physico-chemical properties vary with both temperature and the amount of sea salt dissolved within it. The composition of sea salt is approximately constant. However, in the past 30 years, measurement technology for specific seawater properties has advanced enough so that the precision of routine measurements of (say) electrical conductivity can be several orders of magnitude greater than theoretical understanding of how these measurements are related to variations in composition, and to derived properties like salinity and density. In addition, the present requirements for accurate energy budgets in circulation models has outstripped our knowledge of how "heat" can best be described in the ocean. The Thermodynamic Equation of Seawater 2010 (TEOS-10) was recently developed to address these and other problems. In this talk I will give an outline of the problems, and show how a combination of theoretical, laboratory, and numerical analysis has provided oceanographers with a much improved tool for future research.

Wednesday, January 4, 2016
3:00 p.m.
Elliott Building
Room 167