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OBAVIJEST

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odsjeku PMF-a seminar:

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Energy Conservations

ABSTRACT: Energy conservations in the stratified atmosphere are revisited. Because the atmospheric thermal structure is connected with air motions particularly turbulent mixing, the traditional thermal energy conservation is challenged in explaining observed atmospheric thermodynamic structures. The kinetic energy conservation based on the momentum conservation only explains how kinetic energy is generated but not where the non-hydrostatic energy for generating the vertical component of kinetic energy comes from. Total energy conservation includes atmospheric kinetic and internal energies and can be used to describe interactions between thermal and kinetic energies through non-hydrostatic pressure work, which explains the atmospheric thermodynamic structure as a result of the so-called stability effect on atmospheric motions. The traditional thermal energy conservation is only valid when both thermal energy to non-hydrostatic pressure work and thermal heating associated with viscous stress work are negligibly small. Based on the concept of the total energy conservation, new thermal energy conservation is proposed with consideration of the thermal energy transfer to non-hydrostatic energy work for changing kinetic energy resulting in reduced thermal energy available for changing internal energy. Observed temporal variations of air temperature, the energy transfer associated with non-hydrostatic pressure work, and vertical variations of turbulent heat transfer with negligible horizontal heat advection support the concept of the thermal energy transfer to the non-hydrostatic energy work in the new thermal energy conservation.

Pozivaju se studenti, apsolventi i svi zainteresirani da prisustvuju predavanju, koje će se održati u **predavaoni P2** Geofizičkog odsjeka PMF-a, Horvatovac 95, Zagreb.