Abstract Submitted
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**Remote sensing from space of turbulence produced by a submerged municipal wastewater outfall** PAK TAO LEUNG, Texas A&M University, HARTMUT PRANDKE, ISW Wassermesstechnik, VALERY BONDUR, ISINTECH, NORRIS KEELER, DTI, CARL GIBSON, UCSD — Satellite imagery of sea surface brightness reveals narrow wavenumber spectral anomalies at distances up to 20 km from the diffuser (1). Three international expeditions in 2002, 2003 and 2004 monitored receiving waters with an array of hydrographic and turbulence microstructure sensors in anomaly and ambient regions. Drifters set near the 40-50 m trapping depth of the effluent, as well as ADCP measurements, show complex currents (tides, lee eddies, freshwater run-off). Mean turbulence parameters for $\sim 10^4$ microstructure patches (3) in the anomaly and ambient regions have been analyzed to understand the complex stratified turbulence processes. The results point to different possible mechanisms: internal waves produced by the outfall turbulence and/or buoyancy effects, fossils of the outfall turbulence, secondary and ambient internal waves (2). See related information at http://www-acs.ucsd.edu/∼ir118 1. Keeler, R. N., V. G. Bondur, and C. H. Gibson (2005). Optical satellite imagery detection ... , Geophys. Res. Lett., 32, L12610 2. Leung, P. T., and C. H. Gibson (2004). Turbulence and fossil turbulence in oceans and lakes, Chin. J. Oceanol. Limnol., 22, 1 3. Prandke, H. and A. Stips (1992). A model of Baltic thermocline turbulence patches ... , Cont. Shelf Res.,12, 643

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