2005.

The results related to energetics of oceanic general circulation were published in Journal of Physical Oceanography and Deep Sea Research. These papers have been widely cited in recent scientific publications. In particular, the two articles about wind energy input to surface waves and Ekman layer have been selected as important progress in physical oceanography and reported in the Bulletin of American Meteorological Society.

(Quoted from 2007 Annual Report)

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Research on 3D Micro-nano Processing Reported on Nature

The latest issue of Nature reported in its Research Highlights (see "Lithography: Luminous Lizards", Nature, Vol. 451, p868, Feb. 21, 2008) that a group of researchers from the Technical Institute of Physics and Chemistry (TIPC), Chinese Academy of Sciences (CAS) achieved the new progress in 3D micro-structures of nanometer composites using the multiphoton nano-processing technology. The related research findings were previously reported online on January 30th by The Journal of Advanced Materials (see Adv. Mater. doi: 10. 1002/adma. 200702035).

Funded by CAS' Scientific Instrument Project, the research team of organic nano-photonics headed by Prof. Duan Xuanming, one of CAS's "Hundred Elites Program" awardees, successfully and independently developed an ultra-fine fabrication system by means of nano-photonics. By close collaboration with universities and institutes at home and abroad, the team draw attention for developing the fabrication at nano-scale by taking advantages of the direct writing technology with femto-second laser of near infrared wavelength (see Appl. Phys. Lett., 2007, 90, 071106, 131106; 91, 124103). At the same time, the functionality of fabrication materials and the capability of nano-structure were studied and the lasing phenomenon in a 3D nano-wire structure of materials with fluorescence dyes was also observed (see Appl. Phys. A, 2007, 89, 145).

Prof. Duan put forward a new approach to process the 3D microstructure by applying both the light-etching glue prepared from the precursor components of nano-materials and the 3D reprocessing mode by means of in-situ synthesis to fabricate the nano-composites. In this way, the team obtained the nano composites of TiO (see Thin Solid Films, 2004, 453, 518) and CdS in the form of 3D photonic crystals (see the Invited Paper of Appl. Phys. A, 2007, 86, 427) and observed the reinforced photonic band-gap effect in the 3D photonic crystals.

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(Quoted from NSFC Web.)