

The 40th JUACEP Seminar

第40回 名古屋大学日米協働教育プログラムセミナー

Date: Dec. 22 (Thu), 2016 16:00- 17:00

Venue: Lecture Room 232, Eng.Bldg-2

Nanostructured Carbon Film's Science-Technology and Applications

ナノ構造化カーボン膜の科学と技術及びその応用

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Summary

Carbon based nano devices/systems have bright prospects in the modern industry since they can be easily integrated with various substrates during fabrication, and they can effectively reduce resource and energy consumptions. Nano devices derived from carbon materials such as graphene and carbon nanotubes have shown significant performances. Recently, nanocrystallite-containing carbon films attracted much attention owing to their unique mechanical, optical, electrical and other properties. They can also be expected as candidates for novel carbon based nano devices/systems. In this lecture, we reported The technology of low energy electron irradiation in electron cyclotron resonance (ECR) plasma to induce graphene nanocrystallite formation and development in carbon films, thus modulating the film Nano Optical-Electrical-Magnetic-Mechanical behaviors, which carbon-based a prospective candidate in nanosurface-sensing applications.

Lecturer

Received the B.S. degree in mechanical Engineering from Changchun Institute of Optics and Fine Mechanics (China) in 1983 and the M.S. degree from Chinese Academy of Sciences Changchun Institute of Optics and Fine Mechanics (China) in 1986. He received his Ph.D. in Coating tribology from Tohoku University (Japan) in 1992. He used to work in Shizuoka University (Japan) as an Associated Professor in 1995-2001 and in Xian Jiaotong Univeristy (China) as a professor in 2002-2012. He was appointed as the distinguished professor of Shenzhen University (China) from 2012. Over the past fifteen years, Diao's research has been at ECR-plasma Sputtering Carbon Film's Science and Technology. The significance of the previous discoveries by Diao is reflected by more than 200 publications in various archival journals (Nanoscale, Carbon, Acta Materialia, Applied Physics Letters, ASME-Journal of Tribology, etc.), conference proceedings and 23 patents, the best paper has been cited 161 times, and graduation of 10 PhD and 39 MS students. He is the Editorial Board of Journal of Lubrication Science and the associated editor of Friction.

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