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China-Germany Symposium on Organometallic Catalysts and Olefin Polymerization in Hangzhou

In line with increasing academic contacts and friendly cooperations between China and Germany, and supported by the National Natural Science Foundation of China (NSFC) and China Petrochemical Corporation (SINOPEC) and the German Science Foundation, the first China-Germany Symposium on organometallic catalysts and olefin polymerization was successfully held at Zhejiang University in Hangzhou on 9, 10 and 11 October 2000. About 80 participants from Germany, UK, and China (including Hongkong and Taiwan) attended the meeting. This symposium focused on:

1. Synthesis and characterization of organometallic catalysts;
2. Olefin polymerization by homo- and heterogeneous organometallic catalysts;
3. Functionalized polyolefins produced by organometallic catalysts;
4. New developments in organometallic catalysts in the polyolefin industry.

Prof. Dr. W. Kaminsky showed in his report many new results of Ziegler-Natta catalysts, especially from metallocene catalysts. The discovery of metallocene/methylaluminoxane (MAO) catalyst has opened a frontier in the area of polymer synthesis and processing. A great number of symmetric and chiral zirconocenes have been synthesized to give isotactic, syndiotactic, isoblock, or stereoblock polymers with increased impact strength and toughness, better melt characteristics or elasticity, and improved clarity in films. Some plastics made by metallocene catalysts are already on the market. He predicted that there will be a rapid increase in the next year.

Prof. Dr. Hong Dingyi, reviewed the great progress and brilliant prospects in development and application of metallocene catalyst for polyolefins in China. Since the early 1990's, a series of metallocene catalysts such as ansa-(Ind)₂ZrCl₂, Ph₂CH₂(FluCp)ZrCl₂, CpTi(OPh)₃, Cp*Ti(OPh)₃ and etc., have been synthesized and applied successfully to prepare precisely designed PE, iPP, sPP, aPP and sPS. Some industrialized results have been achieved from the gas-phase fluidized bed PE, batch plant in Qilu, Liaoyang and Phillips respectively.

Prof. H. Schumann (TU Berlin), Prof. G. Erker (University Muenster), Prof. G. Fink (Max-planck-Institut fuer Kohlenforschung), Prof. M. Bochmann (University of East Anglia, UK) and Prof. HuYouliang (Beijing Institute of Chemistry, Chinese Academy of Sciences), Prof. Huang Baotong (Changchun Institute of Applied Chemistry, Chinese Academy of Sciences), Prof. Lin Shang'an (Zhongshan University), Prof. Shen Zhiquan (Zhejiang University) and others reported their new results in synthesis of new lanthanocene, tin-or germa-bridged metallocenes, polymerized metallocene, novel ethylene polymerization in water medium and polymerization mechanisms.