

<<从失效到更好的设计、制造和建造>>

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## 前言

Failures and accidents in industries have been repeatedly reported in the course of rapid development of national economy in China. As the Chinese saying goes , failure is the mother of success. The failure can advance our engineering knowledge than all the successful machines and structures in the world. Many theories were actually developed based on the lessons learned from failures. Fracture mechanics , as an example , were developed after a series of fracture failures in ships , aircrafts , pressure vessels and so on , which in turn has supported the successful development of many new products of high reliability. New failures in current extreme engineering will surely give birth to a new generation of theories. The 2012 International Symposium on Structural

Integrity (ISSI2012) is thus held in Jinan , China during October 31-November 4 , 2012 with the theme From Failure to Better Design , Manufacture and Construction. This book presents the proceedings of ISSI2012. As the successor of Fracture Mechanics symposium series (from 2003 to 2009) , ISSI2012 , continues the tradition of small scale but of high quality in discussion and exchange. Various sessions are planned for presentations and discussions on theoretical aspects and practical applications in the area of structural integrity in general. The symposium (ISSI2012) is co-organized by member organizations of China Structural Integrity Consortium , including Shandong University , East China University of Science and Technology , National Engineering Research Center of Pressure Vessel and Pipeline Safety Technology (Hefei General Machinery Research Institute) , MOE Key Laboratory of Pressure Systems and Safety , Nanjing University of Technology , Zhejiang University , Zhejiang University of Technology , Zhengzhou University , Changsha University of Science and Technology , Southwest Jiaotong University , Beihang University and co-sponsored by China Pressure Vessel Institution , China Materials Institution , National Natural Science Foundation of China , General Administration of Quality Supervision , Inspection and Quarantine of China , Engineering and Technology Research Center for Special Equipment Safety of Shandong Province , MOE Key Laboratory of High Efficiency and Clean Mechanical Manufacture (SDU) , MOE Engineering Research Center of Large-scale Underground Cavern Group (SDU). On behalf of the organizing committee , we would like to thank the above co-organizers and co-sponsors who made ISSI2012 possible. We also wish to thank Professor George C. Sih and Professor Zhengdong Wang for their passion to the symposium and efforts made to ensure the success of the event.

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### 内容概要

《从失效到更好的设计、制造和建造》是国际断裂力学学会2012年结构完整性年会的论文集，全书收录最新论文近100篇。

论文内容均为机械结构研究领域，世界顶级的工程研究科学家最新的研究成果，并能引导该领域未来研究的方向。

本书适合高水平科技图书馆的馆藏图书，也可适合该领域工程研究的研究生及相关科研人员的学习、交流、参考、借鉴之用。

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