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Research on Integrating Design of High-Rise Ward Building Based on Green Principles G. Wu, S.C. Li and L. Ge	1945
Design & Construction for a Deeper Foundation Pit D.M. Li	1949
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Review on Phase Change Materials for Building Applications Y.Q. Cui and S. Riffat	1958
Research on the Changeable Strategy of Chinese Traditional Courtyard Dwelling's Form Based on Climatic Adaptability X.Q. Wang, W.M. Guo and J. Luo	1963
Review of Latest Developments in Microporous Aerogel for Building Applications Y.Q. Cui and S. Riffat	1967

CHAPTER 4: Frontiers of Energy Engineering and Materials

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Comprehensive Evaluation of Optimal Allocation to Coal Resource Based on Stepwise Order Relations Analysis J.Y. Miao, J.L. Guo and Y.Z. Liu	1983
Research on Economy Escalation and Low-Carbon Industrial Development in Jiangsu Province G.G. Jiang, Z. Kong and G.X. Dong	1989

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G.F. Tian, K.Q. Feng and S.H. Sun	2002
Fuel Characteristics Research and Regression Analysis for Blend Fuel of Biomass and Coal	
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