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Sommario/riassunto	This book presents the state-of-the-art in simulation on supercomputers. Leading researchers present results achieved on systems of the High Performance Computing Center Stuttgart (HLRS) for the year 2012. The reports cover all fields of computational science and

engineering ranging from CFD via computational physics and chemistry to computer science with a special emphasis on industrially relevant applications. Presenting results for both vector-systems and micro-processor based systems the book allows to compare performance levels and usability of various architectures. As HLRS operates not only a large cluster system but also one of the largest NEC vector systems in the world this book gives an excellent insight also into the potential of vector systems. The book covers the main methods in high performance computing. Its outstanding results in achieving highest performance for production codes are of particular interest for both the scientist and the engineer. The book comes with a wealth of coloured illustrations and tables of results.