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Advanced Distributed Measuring Systems - Exhibits of Application

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Description:

Measuring systems are an essential part of all automated production systems, they also serve to ensure quality of production or they are used to assure the reliability and safety in various areas. The same applies in principle likewise for fields of telecommunication, energy production and distribution, health care etc. Similarly no serious scientific research in the field of natural and technical sciences can be performed without objective data about the investigated object, which are usually acquired using measuring system. Demands on the speed and accuracy of measurement increase in all areas in general. These are the grounds for publishing this book.

The book "Advanced distributed measuring systems - exhibits of application" offers 8 up-to-date examples of typical laboratory, industrial and biomedical applications of advanced measuring and information systems including virtual instrumentation. It arose based on the most interesting papers from this area published at IDAACS'2011 conference. However, single chapters include not only system design solution in wider context but also relevant theoretical parts, achieved results and possible future ways of design and development.

Technical topics discussed in the book include:

- embedded applications;
- small distributed systems;
- automotive distributed system;
- distributed monitoring systems based on wireless networks;
- synchronisation in large DAQ systems;
- virtual instrumentation.

"Advanced distributed measuring systems - exhibits of application" is ideal for personnel of firms deals with control systems, automotive electronics, airspace instrumentation, health care technology etc. as well as academic staff and postgraduate students in electrical, control and computer engineering.

Keywords: distributed measuring systems, wireless sensor network, fast data acquisition, synchronisation in large systems, automotive distributed systems, virtual instrumentation, micro electromechanical systems, real-time monitoring