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Generation; 2.3.3 Speech Synthesis; 2.3.4 Sound Generation; 2.3.5 Tactile/Haptic Generation; 2.4 Summary; 2.5 Further Reading; 3 Multimodal Dialogue Systems; 3.1 Benefits of Multimodal Interaction 3.1.1 In Terms of System Input3.1.2 In Terms of System Processing; 3.1.3 In Terms of System Output; 3.2 Development of Multimodal Dialogue Systems; 3.2.1 Development Techniques; 3.2.2 Data Fusion; 3.2.3 Architectures of Multimodal Systems; 3.2.4 Animated Agents; 3.2.5 Research Trends; 3.3 Summary; 3.4 Further Reading; 4 Multilingual Dialogue Systems; 4.1 Implications of Multilinguality in the Architecture of Dialogue Systems; 4.1.1 Consideration of Alternatives in Multilingual Dialogue Systems; 4.1.2 Interlingua Approach; 4.1.3 Semantic Frame Conversion Approach
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5.5.1 Reference Resolution in Multilingual Dialogue Systems

Sommario/riassunto

Dialogue systems are a very appealing technology with an extraordinary future. Spoken, Multilingual and Multimodal Dialogues Systems: Development and Assessment addresses the great demand for information about the development of advanced dialogue systems combining speech with other modalities under a multilingual framework. It aims to give a systematic overview of dialogue systems and recent advances in the practical application of spoken dialogue systems. Spoken Dialogue Systems are computer-based systems developed to provide information and carry out simple tasks using speech as the

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Sommario/riassunto

Isogeometric analysis (IGA) consists of using the same higher-order and smooth spline functions for the representation of geometry in Computer Aided Design as for the approximation of solution fields in Finite Element Analysis. Now, almost twenty years after its creation, substantial works are being reported in IGA, making it very competitive in scientific computing. This book proposes to use IGA jointly with standard finite element methods (FEM), presenting IGA as a projection of FEM on a more regular reduced basis. By shedding new light on how IGA relates to FEM, we can see how IGA can be implemented on top of an FE code in order to improve the solution of problems that require more regularity. This is illustrated by using IGA with FEM in a non-invasive fashion to perform efficient and robust multiscale global/local simulations in solid mechanics. Furthermore, we show that IGA can regularize the inverse problem of FE digital image correlation in experimental mechanics.