

Application-oriented compressor research: current challenges and future requirements

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Effective application-oriented compressor research requires experimental test cases that are representative of current and expected challenges in real-world turbomachinery. Unfortunately, there are only few realistic test cases in the open literature. This lack of realistic validation data impedes the development of more advanced performance and flow prediction methods. This presentation, thus, gives an overview of current challenges with respect to the understanding and prediction of compressor flows, and potential future compressor design requirements. Based on this, possible key characteristics for an application-oriented family of next-generation compressor test case are discussed.