



**Deutsche Gesellschaft für Luft- und Raumfahrt
Lilienthal Oberth e.V.**



Short Course

Gas Turbine Performance

Munich, Germany 19 – 23 October 2009



<http://www.dglr.de/veranstaltungen>

TARGET AUDIENCE

The DGLR Short Course is arranged for graduate engineers, equivalent professionals and/or managers. It is equally suitable for specialists in search of a broader perspective and for newcomers to the field.

AIM

The Short Course gives an insight into state of the art methods in Gas Turbine Performance and covers a selected range of key topics associated with practical experience in this field. The course contents enables the delegates to understand company specific methods on a firm and sound technical basis.

CONTENT

The Short Course in Gas Turbine Performance will cover following topics:

Thermodynamic Basics
Performance Maps
Cycle Choice
Steady State Performance
Ratings
Margins
Trimming
Transient Performance
Controls
Test Analysis
Monitoring
Instrumentation and Testing

LEARNING OBJECTIVES

On completion of the Short Course, delegates will have a better understanding of

- how to choose the thermodynamic cycle of a gas turbine
- steady state and transient gas turbine performance
- the methods in steady state and transient gas turbine performance analysis
- testing and instrumentation associated with gas turbine performance modelling

COURSE LEADER

Prof. Dr.-Ing. Stephan Staudacher

Director of the Institute of Aircraft Propulsion Systems, Stuttgart University
<http://www.ila.uni-stuttgart.de>.

COURSE INSTRUCTORS

Dr. Joachim Kurzke

World wide known specialist in gas turbine performance and the father of GasTurb®

Dr. Klaus-Jürgen Schmidt

Departmental Head of Performance, MTU Aero Engines

Dr. Wolfgang Berns

CEO FTI Systems, various former positions in performance and controls of turbojet engines and power plants

Dr. Michael Bauer

Former group leader new technologies, test data analysis and monitoring, MTU Aero Engines.

Dr. Roland Fiola

Departmental Head of Performance, Systems and Reliability, Rolls-Royce Deutschland

VENUE

MTU Aero Engines
Dachauerstr. 665
80995 München

DGLR explicitly expresses its gratefulness to MTU Aero Engines for the excellent support of this short course.

COSTS

The costs for the DGLR Short Course will be 800 €. Members of DGLR may attend with a reduced fee of 700 €. The fee includes lunch, coffee/tea and biscuits during the breaks. A registration form is available at:
http://www.dglr.de/veranstaltungen/ankuendigungen/dglr_short_course

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Monday 19th October Day 1

| | |
|---|-----------|
| Thermodynamic basics of gas turbine performance | J. Kurzke |
| How Performance Programs work | J. Kurzke |
| Design Point and Cycle Choice | J. Kurzke |

Tuesday 20th October Day 2

| | |
|--|---------------|
| Steady State Performance and Non-dimensional | K.-J. Schmidt |
| Margins | K.-J. Schmidt |
| Pass Off Testing and Trimming | K.-J. Schmidt |

Wednesday 21st October Day 3

| | |
|-----------------------|----------|
| Transient Performance | W. Berns |
| Gas Turbine Controls | W. Berns |
| Control Systems | W. Berns |
| Company Tour FTI | W. Berns |

Thursday 22nd October Day 4

| | |
|-----------------------------------|----------|
| Steady State Analysis | M. Bauer |
| Rake Checking | M. Bauer |
| Model Based Test Analysis (ANSYS) | M. Bauer |
| Monitoring | M. Bauer |

Friday 23rd October Day 5

| | |
|------------------------|----------|
| Transient Analysis | R. Fiola |
| Instrumentation | R. Fiola |
| Rig and Engine Testing | R. Fiola |
| Company Tour MTU | |

CERTIFICATE

After successful participation of the DGLR Short Course each delegate will receive a DGLR certificate signed by the president of the DGLR Prof. Dr.-Ing. Joachim Szodruch and Course Leader Prof. Dr.-Ing Stephan Staudacher