Some Results of the Eighth European Conference on Turbine Machinery

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The traditional eighth European Conference on Turbine Machinery was held at Technological University in the city of Gratz, Austria, from March 23–27, 2009, which is at present the most representative international forum in the field of thermal power machines and the aerodynamics thereof.

A total of 119 reports from 17 countries were presented at the conference, which indicates that rather intense research is being carried out in different countries in the fields of steam and gas turbines and pumps.

As should be expected, the majority of reports were presented from countries with a developed turbine machinery construction industry that produce new-generation power turbines, such as Germany, France, England, and Italy, and provide strong financial support for advanced scientific and technical developments.

Unfortunately, Russia is not among these countries, although many developments carried out outside Russia are based on the results of work carried out by Russian scientists in the Soviet Union in the 1960s–1980s. In particular, calculated and experimental studies of end losses in turbine machinery cascades can be pointed out. The final results of these studies are essentially the same as those obtained at the Central Boiler and Turbine Institute, Moscow Power Engineering Institute, and Kharkiv Polytechnic Institute in the past century but are known to a very little extent in the European countries. A similar situation can be observed concerning research on studying separation of moisture in nozzle cascades operating in the low-pressure parts of steam turbines, as well as in the case of studies of labyrinth seals.

A wide spectrum of questions ranging from fundamental research to specific applications was considered at the conference. To confirm this, it is sufficient to enlist the scientific lines of sections into which the conference was subdivided:

- active and passive flows,
- turbulent flows,
- aerodynamics of compressors,
- heat transfer in turbine machinery,
- hydraulic turbines,
- noise and vibration,
- operating experience and measurement methods,
- optimization problems,
- pumps and diffusers,
- steam turbines, and
- aerodynamics of turbine machinery.

All reports and information presented at the conference have been published in a separate, 1496-page volume and can be obtained on individual request at the website www.tugraz.at/Verlag.

It should be pointed out that a brief review of the published proceedings of the conference shows a clear trend toward experimental investigations. Indeed, if we take the reports presented at the Fourth European Conference, more than 80% of them were devoted exclusively to calculation studies, whereas the overwhelming majority of reports presented at the Eight Conference contained information on experimental studies.

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