



Institute of Manufacturing Technology and Equipment Automation

1. Description

The Institute of Manufacturing Technology and Equipment Automation at Shanghai Jiao Tong University was founded in 1952. It belongs to the State Key Discipline "Mechanical Engineering", which was one of the first disciplines accredited by the Ministry of Education to offer graduate degree programs and postdoctoral programs. Research areas in the institute include Production Automation and CNC Technology, Precision and High Efficiency Machining, Laser Processing and EDM, and Metrology and Micro-machining. The institute has built up broad cooperation with many internationally renowned companies, including Shanghai Electric, Commercial Aircraft Corporation of China, Zimmer & Kreim GmbH and Makino Asia, etc. There are currently 6 professors, 15 associate professors, 4 assistant professors and 3 lab staffs working in the institute.

2. Key Research Fields

- Cutting & Grinding Process and Tools
- Intelligent & Special Manufacturing Technologies and Equipment
- Non-traditional Processing Technology and Equipment
- Machine Tool Error Measurement, Analysis and Compensation
- Micro-nano Manufacturing & Coating Technology

3. Labs, Centers and Groups

- High efficiency & precision machining lab
- Laser based manufacturing lab
- Advanced manufacturing & coatings technology lab
- Nontraditional machining lab
- Machine tool error measurement, analysis and compensation lab
- Machine tool design and manufacturing process lab

4. Instrumentation & Facilities

- CNC high-speed milling center
- CNC turning center
- Diamond tool grinding machine
- Creep feed grinding machine
- Ps ultrafast laser system
- Fiber laser
- Nd: YAG laser
- CVD diamond deposition device
- 6-axis EDM machine tool
- High speed arc discharge machine tool
- Micro-EDM machine apparatus
- High speed camera
- Laser interferometer for volumetric error measurement of machine tool
- Double ball bar
- Spindle error analyzer
- KGM 181, KGM 182 and KGM 282 grid encoders
- The annular gap flow vibration and momentum transport analyzer
- The scaled inner coolant system in canned motor
- High speed surface grinding machine
- True color confocal microscope
- Thermo-graphic system
- Laser interferometry model

5. Website

<http://amt.sjtu.edu.cn/>

6. Director

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