

Fomin C.D.

# The Institute of Semiconductor Physics





The Institute of Semiconductor Physics,  
Siberian Branch of the Russian  
Academy of Sciences was founded in  
1964.



# Science

The basic trend of the Institute is carrying out scientific investigations and applied developments in topical problems of condensed matters physics, including semiconductor and insulator physics, physics of low-dimensional systems, prior scientific directions, element base of

- \* microelectronics, opto-, nanoelectronics,
- \* quantum computers,
- \* topical problems of optics and laser physics.



The contemporary scientific-technical progress is considerably determined by the development of electronics whose base is the advancement of fundamental sciences - first solid and semiconductor physics. The latest achievements in these fields are connected with physics of low-dimensional structures and developments in nanostructures fabrication with a principally new functional potential for nano- and optoelectronics, communication means, new information technologies, measurement devices, etc.

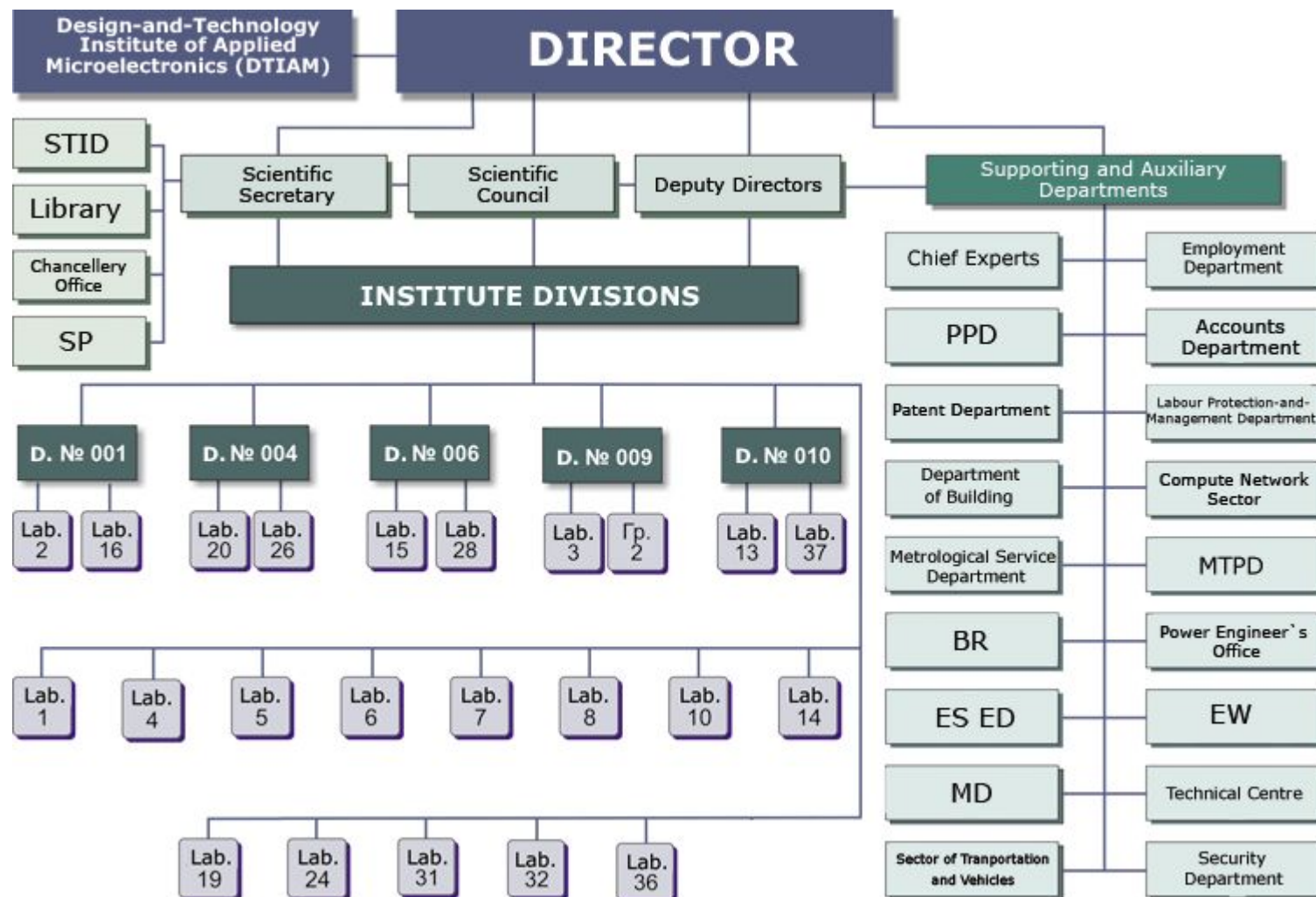
The most outstanding achievements in this field were encouraged with Noble prizes in physics: Hall quantum effect; electron and tunnel atomic resolution microscopy; Hall fractional quantum effect; development of semiconductor heterostructures and integral microcircuits.



According to many prognoses, it is the development of nanotechnologies that will outline the image of the XXI century, - just like the discovery of atomic energy, invention of transistor and laser determined the image of the XX century. Nanotechnologies are to resolve the following tasks of modern semiconductor electronics: increase of computing systems production output and, for the prospect, development of quantum computer, increase of connection channels transmission capacity, increase of information memory volume and quality of information reflection systems with a simultaneous decrease of energy consumption; widening the potential of sensor and energy-saving devices; increase in the share of using electron and optoelectron components in

- \* biological,
- \* medical,
- \* chemical,
- \* machinery.





STID - Science-and-Technical Information Department

SP - Sector for Printing

PPD - Production-and-Planning Department

MD - Maintenance Department

BR - Sector for Building and Repairing

ES ED - Engineering Department for Electronic System

EW - Experimental Workshop

MTPD - Material-Technical Provision Department





13  
УЧЕБНО-МЕТОДИЧЕСКИЙ  
ЦЕНТР

K22

УЧЕБНО-МЕТОДИЧЕСКИЙ  
ЦЕНТР