

# Report of "Elasticity and plasticity theory" department of IMM for 2017

Theme: **"Defection, stability, and vibration of nonhomogeneous and anisotropic structural elements"**.

Work A. **Stability of a heat differently resisting to extension and compression under defection. (Ex. V. Dj. Cadjiev).**

The problem of stability of different modulus heat under defection was solved and the values of critical parameters were determined.

Work B. **Calculation and analysis of force component in thin-shelled rotating elastic shells. (Ex. Kh. I. Musayev)**

The value of the natural frequency was determined by approximate analytic methods.

Work C. **Determining frequency in the natural vibration of local, curved structure anisotropic plate. (ex. T.Y.Zeynalova)**

Bending equilibrium equations in thin shells were derived and force components were determined.

Work Ç. **Studying force components in noncircular thin elastic spherical cylindrical and other shells. (ex. F.S.Guseynov)**

Stern components in cylindrical and spherical shells were determined.

Work E. **Cracking in the thin structural element in the stern field. (ex.E.H.Shahbandayev)**

The condition of crack initiation in thin plates in the stressed field was determined.

**Work D. Bending of an orthotropic circular plate on no homogeneous foundation was determined. (ex. G.R.Mirzayeva)**

The maximum bending of the circular plate is determined, which is located on a non-uniform basis.

**On scientific organizational activity**

The department seminars are held once in two weeks (on Friday) at 12.00. The talks of the department collaborators, doctoral students and the collaborators of other institutions are discussed. The department collaborators take part at the Institute seminars and scientific institutions and dissertation works are discussed in these seminars.

The department collaborators continue their scientific-pedagogical activity. Vagif Gadjiev is a professor (a part-time) at "Applied Mechanics and Transport" chair at Tefekkur University.

This year he was at the head of Transport and technical sciences of scientific practical Conference "Urgent problems of science and education in modern age" devoted to 94 years of national leader Heydar Aliyev and gave two talks.

Candidate for a degree from Ganja Technological University defended ph. d. dissertation at the scientific board at BSU. (30.05.17)

Doctoral student Natic Rzayev supervised by Vagif Gadjiev has defended Ph.D. Dissertation.

Full-time doctoral student Aziz Shiriyev continues his work on the theme. On December he must pass exams by specialty in January from the English. In BSU Vagif Gadjiev was an opponent of Ph.D. dissertation on mathematics (30.05.2017) Gulnar Mirzoyeva works a replacement teacher at the chair of "Deformation technologies in state management" of the state administration Academy. (A halftime)

On 05.09.-09.09.2017 Gulnar Mirzoyeva has participated in a talk at the International Conference of mechanical Engineers organized in Turkey and get a certificate.

The talk of Tamilla Zeynalova "Deformation and fracture of materials and Nan materials" was accepted to the International Conference Moscow 2017 and was published in the proceeding of the Conference.

Head of department

Doctor. Phys. math. sci., prof., V. Dj. Gadjiev