Report of "Creeping theory" department of İMM for 2017

In “Creeping theory” department work 8 collaborators:

1. Talybly Latif Khalil – head of department
2. Kazimova Raisa Abulfaz – leading research associate
3. Mir-Salim-zade Munevver Vagif – leading research associate
4. Mamedova Mehriban Ali – leading research associate
5. Mamedova Hijran Ali – research associate
6. Bagirov Emin Telman – research associate
7. Nagiyeva Nigar Miryashar – research associate
8. Bagirova Sema Asif – senior laboratory assistant

7 of these (seven) are research associates and 1 (one) senior laboratory assistant. According to the research plan of 2017 in the department there are 7 works on the topic "Variable load of bodies of irreversible deformation". The plan provided for the seven works on the subject. Scientific works are carried out according to the plan.

I. Scientific activity

Work: Prediction the time of corrosive failure of bodies under the influence of random variables.
Executor: doct.ph.math.sci., prof. L.Kh.Talybly

Stochastic formula has been proposed that allows predicting the time of corrosive fatigue failure of bodies under the influence of random variable factors (force, temperature, etc.).

Work: Corrosive failure of an infinite plate under temperature stress.
Executor: cand.ph.m.s., lead.re.ass. R.A.Kazimova

The time of the corrosive failure of an infinite plate has been predicted under the temperature stress surrounded by an aggressive environment.

Work: Deformation of a rotating cylinder from a material with hereditary properties.
Executor: cand.ph.m.s., lead.re.ass. M.A.Mammadova

A problem on determination of stress-strain state of a long cylinder made of hereditary material and rotating with the rate of constant angle is solved.

Work: Periodically contact problem for the stringer plate is weakened by a system of cracks of variable thickness.
Executor: cand.ph.m.s., lead.re.ass. M.V.Mirsalimzade

It is found the dimensions of contact zone and contact strains in stringer plate weakend by a system of cracks of variable thickness which are in contact with the parts of contours, periodically rectilinear, variable thickness.

Work: Prediction the time of failure in an aggressive environment of a semi-infinite massive, affecting the force at an angle to the surface.
Executor: res.ass., H.A.Mammadova

The initial corrosive failure of the surface of aggressive medium contacting – massive with a force acting at an angle on the surface and time of corrosive failure of arbitrary layer parallel to the surface is predicted

Work: Investigation of the effect on the time of stress concentration of corrosive failure in small hole plate model
Executor: res.ass., E.T.Bagirov

The time of corrosive failure of the elastically deformed plate with small isotropic holes placed in an aggressive environment has been predicted stretching from two sides.

Work: Fatigue failure of an elliptic cross-section bar
Executor: res.ass., N.M.Nagiyeva

The number deformations of a variable torsion that lead to fatigue failure in the deformation of a variable elastically plastic torsion of an elliptic cross-section bar has been determined.

II. Scientific organizational activity

Members of the department were published - 7 articles and 6 theses. 6 of these were published in foreign journals (1 Thomson Reuters, 4 impact factor journals) in the reporting period.

Head of the department Latif Khalil oglu Talybly is a member of Academic Council and editorial staff of the journal "Proc. of Imm".

The Russian Academy of Natural Sciences awarded the leading research associate Kazimova Raisa Abulfaz gizi with the Order of Saint Catherine for serving science. And finally, we note that R.A.Kazimova is a full member of the New York Academy of Sciences.

Emin Telman oglu Bagirov defended his “Corrosive failure of constructive elements in non-stationary temperature field” thesis and was awarded the degree of Doctor of Philosophy in Mechanics. At the same time, he took an active part in the conference organized by the Institute of Mathematics and Mechanics of ANAS dedicated to the 55th anniversary of the Sumgait State University.

Collaborator of the department cand.ph.m.s., lead.re.ass Mehriban Ali gizi Mammadova with Azerbaijan State Marine Academy presented the grant project to Science Development Foundation Under the President of the Republic of Azerbaijan.

Collaborators of the department L.Kh.Talybly, M.A.Mammadova, H.A. Mammadova, and N.M.Nagiyeva will make a report at the International Conference “Modern problems of mathematics and mechanics” dedicated to the 80th anniversary of acad. Akif Gadjiev, which will be held on December 6-8, 2017.

The employees of the department take an active part in the institute seminars, mechanics and department seminars.

Every Friday in the department held a seminar.

Head of Department doct.phys.math.sci., prof., L.Kh.Talybly