

sawarmoo gaerTianeba “talRa”

sawarmoo gaerTianebis xelmZRvaneli: giorgi xubuluri

samecniero erTeulis personaluri Semadgenloba:

samecniero-teq. ganyofileba

1. gany. ufrosi uf.m.m. z.Waxnakia
2. uf.mecnier-muSaki k.gorgaZe
3. mecnier-muSaki m.WiraqaZe
4. mecnier-muSaki n.fokina
5. mecnier-muSaki g.feraZe

laboratoria

1. ufr.laboranti n.kenWaZe
2. laboranti v.imnaiSvili
3. laboranti n.vaCaZe
4. teqnikosi n.uSveriZe
5. teqnikosi r.guliaevi

saqarTvelos saxelmwifo biujetis dafinansebiT 2013 wlisaTvis dagegmili da Sesrulebuli samecniero-kvleviT samuSaoebi

#	samuSaos dasaxeleba	samuSaos xelmZRvaneli	samuSaos Semsruleblebi
1	axali Taobis dozimetrebis damuSaveba garemos radioekologiuri mdgomareobis uwyveti monitoringis mizniT	z. Waxnakia	k. gorgaZe g. feraZe n. uSveriZe r. guliaevi
<p>proeqtis idea da samoqmedo programa iTvaliswinebs garegani kvebis wyaros gareSe moqmedi da informaciis radioarxiT gadamcemi naxevargamtarul I²L logikur elementebis bazaze Seqmnil mikrosensorebze dafuZnebuli inovaciuri dozimetruli sistemis Seqmnas. sistema garda maRali metrologiuri maxasiaTelebisa xasiaTdeba maRali saimedoobiT da stabilurobiT, mcire gabaritebiT, masiTa da RirebulebT. Aam etapze Catarda kvlevebi mikrosensoris mimRebi blokis modelirebis da simulaciis mimarTulebiT.</p>			

Mmomdevno etapze ganxorcieldeba biblioTekuri aqtiuri da pasiuri elementebis SerCeva mikrosensoris hibriduli variantis dasamzadeblad.

#	samuSaos dasaxeleba	samuSaos xelmZRvaneli	samuSaos Semsruleblebi
2	soflis meurneobis miznebisTvis efeqturi da xarisxiani nakeTobebis warmoeba	m. WiraqaZe	k. gorgaZe n. uSveriZe r. guliaevi

proeqtis mizania mosaxleobas mivawodoT iafi saSrobis damzadebis teqnologia, romlis saSualebiTac Tavad SeZlebs gaakeTos iseTi warmadobis iafi mowyobiloba, rogoric mas sWirdeba. principi mdgomareobs swrafceTadi magram iafi konstruqciis variantebis SeTavazebaSi. damuSavda saSrobi kameris eqsperimentuli nimuSi, romelic Sedgeba ori ZiriTadi kvanZisgan:

1. saSrobi kamera;
2. Hhaeris nakadis warmomqmneli (ventilatori).

saSrobi kamera SeiZleba iyos sxvadasxva formis, zomis da konstruqciis. igi ZiriTadad warmoadgens moculobas, romelsac aqvs garsi da masSi moZraobs haeris nakadi.

eqsperimentiT dadginda, rom gamaxurebeli spirali 1000 vatis simZlavis iyo, xolo ventilatori 100 vatis. erTidaigive pirobebSi, erTidaigive raodenobis wylis aorTqlebas gamaxureblis gareSe ornaxevarjer meti dro daWirda vidre gamaxurebliT.

Aaqedan gamomdinare, erT SemTxvevaSi eleqtroenergiis xarji iyo 1100 vt.sT, xolo meore SemTxvevaSi 250 vt.sT, anu 4,4-er ufro naklebi. racSeexebaxarisxs, dabal temperaturaze ufro mizanSewonilia produqtis gamoSroba.

sagranto dafinansebiT damuSavebuli samecniero-kvleviTi proeqtebi

#	proeqtis dasaxeleba	damfinansebeli organizacia	proeqtis xelmZRvaneli	proeqtis Semsruleblebi
1	# 087-13 “wylis motivtive turbinis axali modeli”	saqarTvelos teqnikuri universiteti	k. gorgaZe	m. WiraqaZe z. Waxnakia n. uSveriZe

proeqtis mizans warmoadgens ekologiurad usafrTxo ganaxlebadi energiis wyaros, kerZod wylis motivtive turbinis axali, iafi modelis danergva.

Aaxali wylis motivtive turbina Seicavs erTmaneTTan mimdevrobiT dakavSirebul hidroturbinebs, generators da hidrotubinebis rigidan gaqdamcem meqanizms.

SemoTavazebuli wylis motivtive turbina warmoadgens siaxles (gamogoneba dapatentebulia).

Aam konstrukciis mixedviT motivive turbina mTlianobaSi warmoadgens mdinaris dinebis mimarTulebiT ganTavsebul motivive elementebisgan Semdgar grZel jaWvs, romlis erTi bolo damagrebulia napirze da brunavs Tavisi RerZis garSemo, xolo meore bolo Tavisuflad brunavs wyalSi.

Ffaqturad es aris multiturbina, romelSic ramodenime maZravs erTi RerZi, erTi multiplikatori da erTi generator sWirdeba. Aaqedan gamomdinareobs misi upiratesoba sxva igive simZlavris modelebTan SedarebiT.

Pproeqtis farglebSi agreTve gaTvaliswinebulia axali modelis danergva da am gamogonebis sainovacio winadadebamde miyvana.

publikaciebi:

saqarTveloSi

saxelmZRvaneloebi

#	avtori/avtorebi	saxelmZRvanelos saxelwodeba	gamocemis adgili, gamomcemloba	gverdebis raodenoba
1	gorgaZe k., WeliZe t., feraZe T., berikaSvili T., TaqTaqiSvili m.	Mmasalebis kvlevis fizikuri meTodebi	“teqniki universiteti” Tbilisi, 2009.	104
2	gigineiSvili a. kukulaZe g. gorgaZe k. macaberiZe l. CaxvaSvili l.	laboratoriuli praqtikumi fizikaSi	saqarTvrlos teqniki universiteti. 17.03,2010w. oqmi 2. ISBN 978-9941-14-806-4	110

saxelmZRvaneloSi “masalebis kvlevis fizikuri meTodebi” ganxilulia masalebis kvlevis axali samecniro miRwevebi myari tanis fizikaSi da masalaTmcodneobaSi, rac ganapirobebs sawavlo procesSi gamoyenebuli iqnas teqnologiebi, romlebic saSualebas izleva SeviswavloT arsebuli axali masalebi, maTi fizikuri da teqnologiuri monacemebi. saxelmZRvanelo waadgebra, rogorc fizikis, aseve im specialobebis studentebis, romlebic Seiwavlian nivTierebebis arqiteqturas da axali masalebis miRebis teqnologiebs.

saxelmZRvanelo “laboratoriuli praqtikumi fizikaSi” moicavs laboratoriul samuSaoebs zogadi fizikis, eleqtromagnetizms da optikis mimarTulebebSi. masSi sqwerilia is laboratoriuli samuSaoebi, romlebic saWiroa Seasrulos studentma fizikis kursis Seswaqlisas. amocanebis dasmis Teoria da cdebis Tanmimdevroba aRwerilia martivi da gasagebi eniT, rac saSualebas izleva, rom studenti Cawvdes Casatarebeli laboratoriuli samuSaos msvlelobas da gaiazros miRebuli Sedegebi.

statiebi

#	avtori/avtorebi	statis saTauri, Jurnal- lis/krebulis dasaxeleba	Jurnal- is/krebulis nomeri	gamocemis adgili, gamomcemlob a	gverdebi s raodeno ba
1	Z. Chakhnakia, G. Didebashvili, B. Kvitia, N. Khuchua, Ch. Sklarczyk, V. Melev, Georgian	“Microwave sensors tool or nondestructive diagnostics	Georgian Engineering News, No. 2, 2008	Tbilisi, saqarTvelo	5
2	Gorgadze K., Chelidze T., Taktakishvili M., Peradze T., Berikashvili T.	The Influence of the Shock Wave on the Ti-50WT.% Ta Alloy Possessing the Memory Effect	Georgian Engineering News. Tbilisi. 2009. #2. p.112-115	Tbilisi, saqarTvelo	4
3	Gorgadze K., Peradze T., Berikashvili T., Chelidze T., Bochorishvili M., Gorgadze K., Taktakishvili M.	Share-Memory Effect in Ti- Nb Alloys	Georgian Engineering News. Tbilisi. 2009. #2. p.116-121	Tbilisi, Georgia	6
4	Горгадзе К., Перадзе Т., Арабаджян Н., Сердобинцев В., Челидзе Т., Берикашвили Т.	Акустические исследования мартенситного превращения в сплаве на основе титана ВТ-23	Georgian Engineering News. Tbilisi. 2009. #2. p.126-128	Tbilisi, Georgia	3
5	CixlaZe g. feraZe T. gorgaZe k.	sinaTlis kombinaciuri gabnevis SglsbbjD.B	saqarTvelos ganaTlebis mecnierebaTa akademiis Jurnal “moambis” damateba. Sromebi. 2010, 1(16), gv. 104-106	Tbilisi, saqarTvelo	3
6	CixlaZe g. feraZe T. gorgaZe k.	sinaTlis iZulebiTi kombinaciuri gabneva	saqarTvelos ganaTlebis mecnierebaTa	Tbilisi, saqarTvelo	4

			akademiis Jurnal “moambis” damateba. Sromebi. 2010, 2(17), gv. 152-155		
7	gorgaZe k. feraZe T. berberaSvili T. miminoSvili e. arabajiani n. kotiaSvili l.	Mmalegirebeli elementebis gavlena formis maxsovrobis efeqtze da aRdgenis xarisxze	saerTaSoriso samecniero konferencia “gamoyenebiTi fizikis aqtualuri sakiTxebi” 30 marti, 2011w. Tbilisi, saqarTvelos teqnikuri universiteti. Tezisebis krebuli, gv. 90-91. moxsenebaTakrebu li, gv. 205-209	Tbilisi, saqarTvelo	2
8	Gorgadze K., Peradze T.Arabajian N.Miminoshvili E.Berberashvili T. Kotiashvili L.	Nonelastic Behavior of Multicomponent Titanium Allois	International Scientific Conference “International Cooperation for Sustainable Development Through Science and Technology.”Tbilisi Technical University” 19-20 April 2011.Abstacts p.33-35	Tbilisi, Georgia	4
9	R.G.Melkadze, A.Bertold, G.A.Didebashvili, Z.D.Chakhnakia, G.D.Kalandadze, T.M.Lezhneva, V.E.Osipov	X-Ray sensor with Preamplifier Based on InGaAs/AlGaAs/GaAsHete rostructure	Proceedings of International Scientific Conference. “Modern Issues of Applied Physics”	Tbilisi, Georgia	5

			2011		
10	N.Khuchua, M.Shur, Z.Chakhnakia, R.Melkadze, T.Sakharova, L.Imnaishvili	III-V Semiconductor Devices to Bridge the Terahertz Technology GaP	International Scientific Conference. “Modern Issues of Applied Physics” 2011	Tbilisi, Georgia	5
11	r. melqaZe, z. Waxnakia, g. didebaSvili	nanostruqturebis miReba molekulur-sxivuri epitaqsiis meTodiT	samecniero konfernciis masalebi “nanoqimia da nanoteqnologiebi” gamomcemloba “universali”, 2011	Tbilisi, saqarTvelo	5
12	N.Khuchua, M.Shur.,Z.Chakhnakia, R.Melkadze, A.Tutunjyan, L.Khvedelidze, T.Sakharova, G.Didebashvili	Monolithically integrated Shottky-Gann GaAs based circuits for THz applications	Georgian Engineering News, №3,(vol.55), 2010	Tbilisi, Georgia	8
13	gafiSvili n. berberaSvili T. gorgaZe k.xeCiaSvili T. xizaniSvili S. xuciSvili v.	metastabiluri struqturis mqone Senadnobebis pirdapiri martensituli gardaqmnis gamokvleva	“Nano Studies”. Biannual scientific journal published in Georgia.2012,6. p.105-114	Tbilisi, Georgia	10
14	R. Melkadze, G. Didebashvili, Z. Chakhnakia	Nanostructure Technology for Microwave Devices	International Conference “Nanosensory Systems and Nanomaterials” June 6-9, 2013.Abstacts,	Tbilisi, Georgia	2
15	Berberashvili T. Nabakhtiani G. Khizanishvili Sh. Gorgadze K.	Development of Multi- Component Nickel Free Titanium Alloys	International Conference “Nanosensory Systems and Nanomaterials”	Tbilisi, Georgia	4

			Tbilisi, Georgia. June 6-9, 2013. Abstracts, p.55-58		
<p>1. titanis binaruli da mraVal komponentiani Senadnobebi, romlebic legirebuli arian sxvadasxva elementebiT da Catarebuli aqvT sxvadasxva Termuli damuSaveba. Aam SenadnobebSi gamovlenilia formis maxsovrobis ori efeqti da zedrekadoba – Seswavlilia maTi Tvisebebis cvlileba legirebis xarisxidan gamomdinare. aseve ganxilulia wyalbadis koncentraciis gavlena formis aRdgenis meqanizmze.</p> <p>miRebulia masalebi, romlebmac SeiZleba konkurencia gauwios arsebul “nitinols”, rogorc aRdgenis temperaturuli intervaliT, aseve medicinaSi gamoyenebis TvalsazrisiT, rogorc qimiurad da biologiuRad inertulma masalam. maTi gamoyeneba SesaZlebelia mraVal Semasrulebel da avtomatizirebul sistemebSi.(2,3,4,7,8,13,15).</p> <p>2. statiebSi ganxilulia sinaTlis iZulebiTi kombinaciuri gabnevis mizezebi da misi warmoqmnis meqanizmi. kerZod aRniSnulia, rom msTanTqmel-gambnevi garemos arawrfivobis gamo adgili aqvs rezonansul movlenebs, rac iwvevs garemos atomebis Zlier rxevas da Sedegad daikvirveba sinaTlis iZulebiTi kombinaciuri gabnevis movlena. sinaTlis iZulebiTi kombinaciuri gabneva ganxilulia da axsnilia ori Teoriis-kvanturis da klasikuris TvalsazrisiT airebis, siTxeebis da kristaluri sxeulebis SemTxvevisTvis.(5,6).</p> <p>3. naxeVargamtaruli integraluri sqemebis proeqtirebis aspeqtebi da maTi damzadebis teqnologiuri niuansebi. Aaqcenti gamaxvilebulia mikrosensoruli sistemebis proeqtirebis sqemoteqnikur kvlevebze, gamoyenebis sferoebis aqtualobaze rogorc garemos usafTxoebis, aseve medicinis da soflis meurneobis dargebSi(1,9,10,11,12,14).</p>					

ucxoeTSi

statiebi

#	avtori/ avtorebi	statiis saTauri, Jurnal- lis/krebulis dasaxeleba	Jurnal- is/ krebulis nomeri	gamocemis adgili, gamomcemloba	gverdebis raode noba
1	Gorgadze K., Arabajian N., Serdobintsev V., Tavkheldze V., Peradze T., Stamateli Yu.	Effect of hydrogen on internal friction and elastic modulus in titanium alloys	ActaMaterialia. 2009, vol.57, Issue 3, p.715-721		7
2	Gorgadze K., Peradze T. Serdobintsev V. Arabajian N. Berberashvili T. Miminoshvili E.	Shape Memory Effect in BT-22 Titanium Alloy After Isothermal Treatment Under The Load	Sixth International Conference “Materials and Coating for Extreme Performances: Investigations, Application s, Ecologically Safe Technologies for Their	Yalta, Ponizovka, Cr imea, Ukraine.	1

			Production and Utilization. 20-24 september,2010.Big Abstracts, p.245		
3	M. Tchirakadze, Sh. Gagoshidze	New Model of Wave Energy Converter	ISTC 16 th Seminar “ENERGY SECURITY, HOW TO FURTHER THE TECHNOLOGY”	Almaty, Republic of Kazakhstan 22-23 October 2013	8

საერთაშორისო კონფერენციების და სემინარების თემატიკა ეზრუნება ტიტანის ბინარული და მრავალკომპონენტური სენადნობების, რომლებიც ლეგირებული არიან სხვადასხვა ელემენტებით, სხვადასხვა კონცენტრაციით და კატარული აკვით სხვადასხვა ტერმული დამუშავება. ამ სენადნობების გამოვლენის ფორმის მაქსიმუმის ეფექტები(1,2,3). აგრეთვე იაფი, მდგრადი, მარალენტაბელირის ტალღის ენერჯის გარდამქმნელის დამუშავება ახალი, ინოვაციური ჰიდროტუბის საფუძველზე. განხილულია მისი უპირატესობა დრემდე არსებულ მოდელებთან შედარებით(4).

