505598508 07/31/2019

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5645309

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
STEVEN KENYON	07/08/2019
ZAVEN ARZOUMANIAN	07/05/2019
KEITH GENDREAU	07/05/2019

RECEIVING PARTY DATA

Name:	UNITED STATES OF AMERICA AS REPRESENTED BY THE ADMINISTRATOR OF NASA
Street Address:	300 E. STREET SW
City:	WASHINGTON
State/Country:	D.C.
Postal Code:	20546

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	16406300

CORRESPONDENCE DATA

Fax Number: (301)286-9502

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent

using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

Phone: 3012862385

Email: Milelene.Gunyon-1@nasa.gov

Correspondent Name: MILELENE GUNYON

Address Line 1: NASA GODDARD SPACE FLIGHT CENTER
Address Line 2: OFFICE OF PATENT COUNSEL M/S 140.1

Address Line 4: GREENBELT, MARYLAND 20771

ATTORNEY DOCKET NUMBER:	GSC-18126-1
NAME OF SUBMITTER:	MILELENE GUNYON
SIGNATURE:	/milelene gunyon/
DATE SIGNED:	07/31/2019

Total Attachments: 3

source=Assignment-Filed#page1.tif source=Assignment-Filed#page2.tif

PATENT REEL: 049915 FRAME: 0657

505598508

source=Assignment-Filed#page3.tif

PATENT REEL: 049915 FRAME: 0658



Title of invention:

Assignment to the Government (by Government Employee)

		TIME CHILLIANIA	:35	······································	
Inventor(s):	Rajiv Gupta, Wol Arzoumanian, Ke	fgang Krull, Jake I ith Gendreau	fecia, Avilash Cram	er, Steven Ken	yon, Zaven
NASA Case No.:	GSC-18126-1	Application No.*:	18/406,300	Filing Date*:	5/8/2019
WHEREAS, the part Government (hereat Administration;	iles to this Assignmen ter Govemment), as r	t and Agreement are epresented by the A	the undersigned inve dministrator of the Nat	intor(s) and the U tional Aeronautic	inited States s and Space
WHEREAS, the mail	dng of this Assignmen	it and Agreement is i	in accordance with 37	CFR Part 501; a	nd
WHEREAS, the und		as (have) executed.	on the date(s) indicate		
Assign to the America, its territorie	Govemment my (our) s and possessions, ar	full and exclusive rig od my (our) entire ric	overnment, the unders jht in and to said inver jht, litte and interest in patent(s) that may isa	tion within the U	nited States of cation, and any
amended. If the Government, in accordance nonexclusive, irrevoc	JFR 501.9(d), includin Imment chooses not t is with 37 CFR 501.9(able, royalty-free licen	g rights of priority un to file an application d), and such rights v se in the invention v	usive foreign rights in a der the international (in any foreign country, will be subject to the re with power to grant lice acticable, in any foreign	Convention of Par , I (we) may requiservation to the (press for all norms	ris (1883), as est rights in that Government of a
 Agree, at the a information to, and (c interest transferred by) to cooperate in any n	nanner with the Gov	eany document for, (b) emment in order to all) to deliver any re low the Governm	equested ant to protect any
*4. Authorize and at the same	request the attorneys	of record in the appl	ilcation to insert the ap	plication number	and filing date
September 19		(Def	7 % 2.c. q e Assignment Executed)		stion Executed)
Steven Kenyon (Inventor's Typed Name]	1906 Annaw	on Ct. Hanover MD ss - Including Country)	, , , , ,	
(Signature of Inventor)		(Oati	e Assignment Executed)	(Date Applica	ition Executed)
Zaven Arzoumaniar (Inventor's Typed Name)		(Malling Addres	ss - Including Country)		······································
(Signature of Inventor)		(Date	Assignment Executed)	(Date Applica	tion Executed)
Keith Gendreau					

PATENT

REEL: 049915 FRAME: 0659



Title of invention:

Assignment to the Government (by Government Employee)

	20 20 20 2		N - 11		
Inventor(s):	Rajiv Gupta, Wol Arzoumanian, Ke		łecia, Avilash Cram	er, Steven Ken	yon, Zaven
NASA Case No.:	GSC-18126-1	Application No.*:	16/406,300	Filing Date*:	5/8/2019
WHEREAS, the part Government (hereaf Administration;	ies to this Assignmen ter Government), as r	t and Agreement are epresented by the A	e the undersigned inve dministrator of the Na	entor(s) and the U itional Aeronautic	Inited States s and Space
WHEREAS, the mak	ing of this Assignmer	nt and Agreement is	in accordance with 37	CFR Part 501; a	nd
	ersigned inventor(s) h above-entitled invent		on the date(s) indicat	ted below, an app	lication for United
 Assign to the America, its territorie 	Government my (our) s and possessions, a	full and exclusive rind my (our) entire ri	overnment, the under ght in and to said inve ght, title and interest in patent(s) that may is:	ention within the U n and to said appl	nited States of ication, and any
accordance with 37 (amended. If the Govi country, in accordand nonexclusive, irrevoc	OFR 501.9(d), includir ernment chooses not be with 37 CFR 501.9 able, royalty-free licer	ng rights of priority unito file an application (d), and such rights have in the invention of the continument of the continumen	usive foreign rights in nder the International in any foreign country will be subject to the nwith power to grant licacticable, in any foreign	Convention of Pa y, I (we) may requesservation to the enses for all gove	ris (1883), as lest rights in that Government of a immental
3. Agree, at the) to cooperate in any	manner with the Go	e any document for, (t vernment in order to a	b) to deliver any r illow the Governm	equested ent to protect any
information to, and (c nterest transferred b	, and nacediment and	i adioement			
interest transferred by	request the attorneys	•	olication to insert the a	application numbe	
nterest transferred by *4. Authorize and above when required	request the attorneys	s of record in the app	olication to insert the a		
nterest transferred by *4. Authorize and sbove when required (Signature of Inventor) Steven Kenyon	request the attorneys	of record in the app	**		r and filing date
*4. Authorize and by the state of the state	request the attorneys	of record in the app	te Assignment Executed ass ~ Including Country)		r and filing date
*4. Authorize and shove when required (Signature of Inventor) Steven Kenyon (Inventors Typed Name)	request the attorneys	of record in the app (Da (Mailing Addn	te Assignment Executed	f) (Date Applic	r and filing date
*4. Authorize and above when required (Signature of Inventor) Steven Kenyon (Inventor's Typed Name (Signature)) Zaven Arzoumania	request the attorneys	(Mailing Addr (Da (Mailing Addr 7/5 (Da 11 Southwa	te Assignment Executed ess - Including Country) /19	l) (Date Applid	r and filing date
*4. Authorize and above when required (Signature of Inventor) Steven Kenyon (Inventor's Typed Name (Signation) (Signation) Zaven Arzoumania (Inventor's Typed Name (Inventor's Typed Name	request the attorneys	(Mailing Address) (Dailing Address) (Dailing Address) (Dailing Address)	te Assignment Executed ess - Including Country) /19 te Assignment Executed ay Unit D, Greenbell ess - Including Country)	(Date Applid (Date Applid t, MD 20770	r and filing date
*4. Authorize and above when required (Signature of Inventor) Steven Kenyon (Inventors Typed Name (Signature) (Signature) Zaven Arzoumania (Inventors Typed Name (Inventors Typed Name (Signature))	request the attorneys	(Mailing Address) (Dailing Address) (Dailing Address) (Dailing Address)	ite Assignment Executed ass - Including Country) i/19 te Assignment Executed ay Unit D, Greenbel	(Date Applid (Date Applid t, MD 20770	r and filing date
*4. Authorize and above when required (Signature of Inventor) Steven Kenyon (Inventor's Typed Name (Signation)) Zaven Arzoumania	request the attorneys	(Mailing Address) (Mailing Address) (Da 11 Southware (Mailing Address)	te Assignment Executed ess - Including Country) /19 te Assignment Executed ay Unit D, Greenbell ess - Including Country)	(Date Applid (Date Applid t, MD 20770	r and filing date

PATENT REEL: 049915 FRAME: 0660



Assignment to the Government (by Government Employee)

	TOMOGRAPHII				***********	***************************************
Inventor(s):	Rajiv Gupta, Wo Arzoumanian, K	iligang Krult, Jake I eith Gendreau	Heda, Avilash Cram	er, Steven Ken	yon, Zaven	
NASA Case No.:	GSC-18126-1	Application No.*:	16/406,300	Filing Date*:	5/8/2019	
WHEREAS, the part Government (hereaft Administration;	ies to this Assignme ler Government), as	nt and Agreement an represented by the A	e the undersigned inve administrator of the Nat	ntor(s) and the U ional Aeronautic	Inited States s and Space	
WHEREAS, the mak	ing of this Assignme	nt and Agreement is	in accordance with 37	CFR Part 501; a	nd	
WHEREAS, the unde States Patent on the	ersigned inventor(s) above-entitled inven	has (have) executed, tion.	on the date(s) indicate	d below, an app	lication for Unite	ed
 Assign to the of America, its territories 	Sovernment my (our s and possessions, a) full and exclusive rig and my (our) entire rig	overnment, the unders ght in and to said inver ght, title and interest in patent(s) that may iss	tion within the U and to said appli	nited States of cation, and any	
				med to amid in ma	tion in	
accordance with 37 C amended. If the Gove country, in accordance	imment chooses not e with 37 CFR 501.9 ible, royalty-free lice	ng rights of priority ur to file an application (d), and such rights v nse in the invention v	ider the International C in any foreign country, vill be subject to the re- vith power to grant lice:	onvention of Pail (we) may requirervation to the (is (1883), as est rights in that Sovernment of a nmental	3
accordance with 37 C emended. If the Gove country, in accordance nonexclusive, inevoce purposes. The terms invention.	FR 501.9(d), including mment chooses not with 37 CFR 501.9 with 37 CFR 501.9 with 37 CFR 501.9 when seems of the Gover to cooperate in any	ng rights of priority ur to file an application (d), and such rights v nse in the invention v rill appear, where pra nment, (a) to execute manner with the Gov	ider the International C in any foreign country, vill be subject to the re- vith power to grant lice: cticable, in any foreign	onvention of Par I (we) may requi- servation to the (ises for all gover patent which ma to deliver any re	is (1883), as est rights in that Sovernment of a rimental By Issue on suct	s h
accordance with 37 C smended. If the Gove country, in accordance nonexclusive, irrevoca purposes. The terms of invention. 3. Agree, at the estinformation to, and (c) interest transferred by	FR 501.9(d), including mment chooses not a with 37 CFR 501.9 lible, royality-free lice of such reservation were compared to cooperate in any this Assignment and	ng rights of priority ur to file an application (d), and such rights v nae in the invention v rill appear, where pra nment, (a) to execute manner with the Gov I Agreement.	ider the International C in any foreign country, vill be subject to the re- vith power to grant lice: cticable, in any foreign	onvention of Pai I (we) may requi- servation to the (sees for all gover patent which ma to deliver any re w the Government	ris (1883), as est rights in that sovernment of a mental essue on such quested ent to protect ar	s h
accordance with 37 C smended. If the Gove country, in accordance nonexclusive, inevoca purposes. The terms c invention. 3. Agree, at the exinformation to, and (c) interest transferred by *4. Authorize and r	FR 501.9(d), including mment chooses not a with 37 CFR 501.9 lible, royality-free lice of such reservation were compared to cooperate in any this Assignment and	ng rights of priority ur to file an application (d), and such rights v nse in the invention w rill appear, where pra nment, (a) to execute manner with the Gov I Agreement.	ider the International C in any foreign country, vill be subject to the re- vith power to grant lices cticable, in any foreign any document for, (b) ernment in order to alla ication to insert the ap	onvention of Pai I (we) may requi- servation to the Conses for all gover patent which ma to deliver any re withe Government Dication number	is (1883), as est rights in that Government of a mental ey issue on such quested ent to protect ar and filling date	s h
accordance with 37 C smended. If the Gove country, in accordance nonexclusive, irrevoca purposes. The terms of invention. 3. Agree, at the exinformation to, and (c) interest transferred by *4. Authorize and repower when required.	FR 501.9(d), including rument chooses not a with 37 CFR 501.9 able, royalty-free lice of such reservation were cooperate in any this Assignment and equest the attorneys	ng rights of priority ur to file an application (d), and such rights v nse in the invention v rill appear, where pra nment, (a) to execute manner with the Gov I Agreement. of record in the appli	ider the International C in any foreign country, vill be subject to the re- vith power to grant lice: cticable, in any foreign any document for, (b) ernment in order to alle	onvention of Pai I (we) may requi- servation to the Conses for all gover patent which ma to deliver any re withe Government Dication number	ris (1883), as est rights in that sovernment of a mental essue on such quested ent to protect ar	s h
accordance with 37 C smended. If the Gove country, in accordance nonexclusive, irrevoca purposes. The terms of invention. 3. Agree, at the eximplement of the eximpl	FR 501.9(d), including rument chooses not a with 37 CFR 501.9 able, royalty-free lice of such reservation were cooperate in any this Assignment and equest the attorneys	ng rights of priority ur to file an application (d), and such rights v nse in the invention v rill appear, where pra nment, (a) to execute manner with the Gov I Agreement. of record in the appl (Date (Mailing Address	ider the International C in any foreign country, vill be subject to the re- vith power to grant lice; cticable, in any foreign any document for, (b) emment in order to all ication to insert the ap a Assignment Executed)	onvention of Pai I (we) may requi- servation to the Conses for all gover patent which ma to deliver any re withe Government olication number (Date Applica	is (1883), as est rights in that Government of a mental sy issue on such quested and filling date	s h
accordance with 37 C smended. If the Gove country, in accordance nonexclusive, irrevocs purposes. The terms of invention. 3. Agree, at the existence of invention and (c) interest transferred by 4. Authorize and of above when required. (Signature of inventor) Steven Kenyon Inventor's Typed Nems) (Signature of Inventor) Zaven Arzoumanian	FR 501.9(d), including rument chooses not a with 37 CFR 501.9 able, royalty-free lice of such reservation were cooperate in any this Assignment and equest the attorneys	ng rights of priority ur to file an application (d), and such rights v nse in the invention v rill appear, where pra nment, (a) to execute manner with the Gov I Agreement. of record in the appl (Date (Mailing Address	ider the International C in any foreign country, vill be subject to the re- vith power to grant lice: cticable, in any foreign any document for, (b) emment in order to all ication to insert the ap	onvention of Pai I (we) may requi- servation to the Conses for all gover patent which ma to deliver any re withe Government olication number (Date Applica	is (1883), as est rights in that Government of a mental ey issue on such quested ent to protect ar and filling date	s h
accordance with 37 C smended. If the Gove country, in accordance nonexclusive, irrevoce purposes. The terms of invention. 3. Agree, at the eximplement of the eximpl	FR 501.9(d), including rument chooses not a with 37 CFR 501.9 able, royalty-free lice of such reservation were cooperate in any this Assignment and equest the attorneys	ng rights of priority ur to file an application (d), and such rights v nee in the invention v rill appear, where pra nment, (a) to execute manner with the Gov i Agreement. cof record in the appli (Date (Mailing Address	ider the International C in any foreign country, vill be subject to the re- vith power to grant lice; cticable, in any foreign any document for, (b) emment in order to all ication to insert the ap a Assignment Executed)	onvention of Pai I (we) may requi- servation to the Conses for all gover patent which ma to deliver any re withe Government olication number (Date Applica	is (1883), as est rights in that Government of a mental sy issue on such quested and filling date	s h
accordance with 37 C smended. If the Gove country, in accordance nonexclusive, irrevocs purposes. The terms of invention. 3. Agree, at the existence of invention and (c) interest transferred by 4. Authorize and of above when required. (Signature of inventor) Steven Kenyon Inventor's Typed Nems) (Signature of Inventor) Zaven Arzoumanian	FR 501.9(d), including rument chooses not a with 37 CFR 501.9 able, royalty-free lice of such reservation were cooperate in any this Assignment and equest the attorneys	ng rights of priority ur to file an application (d), and such rights v nee in the invention v rill appear, where pra nment, (a) to execute manner with the Gov I Agreement. cof record in the appl (Date (Mailing Addres) (Date (Mailing Addres)	ider the International C in any foreign country, vill be subject to the re- vith power to grant lice: cticable, in any foreign any document for, (b) enment in order to all ication to insert the ap- e Assignment Executed) as - Including Country) Assignment Executed)	onvention of Pai I (we) may requi- servation to the Conses for all gover patent which ma to deliver any re withe Government olication number (Date Applica	is (1883), as est rights in that Government of a mental sy issue on such quested and filling date	s h
accordance with 37 C smended. If the Gove country, in accordance nonexclusive, irrevocs purposes. The terms of invention. 3. Agree, at the existence of invention and (c) interest transferred by 4. Authorize and of above when required. (Signature of inventor) Steven Kenyon Inventor's Typed Nems) (Signature of Inventor) Zaven Arzoumanian	FR 501.9(d), including rument chooses not a with 37 CFR 501.9 able, royalty-free lice of such reservation were cooperate in any this Assignment and equest the attorneys	ng rights of priority ur to file an application (d), and such rights v nee in the invention v rill appear, where pra nment, (a) to execute manner with the Gov I Agreement. cof record in the appl (Date (Mailing Addres) (Date (Mailing Addres)	ider the International C in any foreign country, vill be subject to the re- vith power to grant lice: cticable, in any foreign any document for, (b) enment in order to all ication to insert the ap- e Assignment Executed) as - Including Country) Assignment Executed)	onvention of Pai I (we) may requiservation to the Coses for all gover patent which make to deliver any resw the Government (Date Application number (Date Application (Date Application (Date Application number number (Date Application number n	is (1883), as est rights in that Government of a mental sy issue on such quested and filling date witon Executed)	s h
accordance with 37 C smended. If the Gove country, in accordance nonexclusive, irrevoca purposes. The terms of invention. 3. Agree, at the estinformation to, and (c) interest transferred by 4. Authorize and response when required. (Signature of inventor) Steven Kenyon (Signature of inventor) Zaven Arzoumanian (Inventor's Typed Name)	FR 501.9(d), including rument chooses not a with 37 CFR 501.9 able, royalty-free lice of such reservation were cooperate in any this Assignment and equest the attorneys	ng rights of priority ur to file an application (d), and such rights v nee in the invention v rill appear, where pra nment, (a) to execute manner with the Gov i Agreement, of record in the appl (Mailing Addres (Mailing Addres (Mailing Addres	ider the International C in any foreign country, vill be subject to the re- vith power to grant lice: cticable, in any foreign any document for, (b) ernment in order to all ication to insert the ap a Assignment Executed) is - Including Country)	onvention of Pai I (we) may requiservation to the Cases for all gover patent which make to deliver any resw the Government (Date Application number (Date Application (Date Ap	is (1883), as est rights in that Government of a mental sy issue on such quested and filling date within Executed)	s h

PATENT

REEL: 049915 FRAME: 0661