PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5028784

| SUBMISSION TYPE: | NEW ASSIGNMENT |
|-----------------------|----------------|
| NATURE OF CONVEYANCE: | ASSIGNMENT |

CONVEYING PARTY DATA

| Name | Execution Date |
|-------------------|----------------|
| ALLEN R PARKER JR | 06/12/2018 |
| ANTHONY PIAZZA | 06/28/2018 |
| HON MAN CHAN | 06/28/2018 |

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: | 20024 |

PROPERTY NUMBERS Total: 1

| Property Type | Number |
|---------------------|----------|
| Application Number: | 16021499 |

CORRESPONDENCE DATA

Fax Number: (818)393-2607

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: 8183547770

Email: mark.w.homer@nasa.gov

Correspondent Name: MARK HOMER

Address Line 1: 4800 OAK GROVE DRIVE

Address Line 2: M/S 180-800

Address Line 4: PASADENA, CALIFORNIA 91109

| ATTORNEY DOCKET NUMBER: | DRC-016-022 |
|-------------------------|--------------|
| NAME OF SUBMITTER: | MARK HOMER |
| SIGNATURE: | /Mark Homer/ |
| DATE SIGNED: | 06/28/2018 |

Total Attachments: 3

source=DRC016022assignf#page1.tif source=DRC016022assignf#page2.tif

PATENT 504982038 REEL: 046228 FRAME: 0036

source=DRC016022assignf#page3.tif

PATENT REEL: 046228 FRAME: 0037



Assignment to the Government (by Government Employee)

| | 4 | ., | | y wwy | | |
|--|--|--|---|---|--|--|
| Title of Invention: | IMPROVED FIBER OPT | TC TEMPERA | TURE SENSORS FO | R CRYOGENIC | ENVIRONMENTS | |
| Inventor(s): | Allen R. Parker, Jr.; Antho | ony Piazza; Ho | m Man Chan; Ryan M | . Warner | | |
| NASA Case No.: | DRC-016-022 Appli | ication No.*: | 16/021,499 | Filing Date*: | 6/28/18_ | |
| WHEREAS, the parties (hereafter Government) | to this Assignment and Agreer , as represented by the Admini | ment are the und istrator of the Na | lersigned inventor(s) and dional Aeronautics and Sp | the United States (980e Administration | Government 1; | |
| WHEREAS, the making | of this Assignment and Agree | ment is in accord | lance with 37 CFR Part 5 | 01; and | | |
| WHEREAS, the unders Patent on the above-en | igned inventor(s) has (have) ex titled invention. | secuted, on the a | iste(s) indicated below, a | application for Un | ited States | |
| Assign to the Gov territories and possessing | consideration of employment be enament my (our) full and exclu- ons, and my (our) entire right, it at application(s) and any patent | isive right in and itle and interest i | to said invention within the said to said application. | e United States of | America, its urling | |
| CFR 501.9(d), including chooses not to file an ag 501.9(d), and such right the invention with power | he Government my (our) full an rights of priority under the inter oplication in any foreign country a will be subject to the reservat r to grant licenses for all govern in patent which may issue on s | mational Conve /, I (we) may req ion to the Gover imental purpose | ntion of Paris (1883), as a uest rights in that country nment of a nonexclusive | amended. If the Go r, in accordance wit irrevocable, rovath | vernment h 37 CFR v-free license in | |
| Agree, at the experience (c) to cooperate in any national Agreement and Agreement and Agreement and Agreement are controlled to the cooperate of the coope | nse of the Government, (a) to a namer with the Government in nent. | execute any doc order to allow th | ument for, (b) to deliver a le Government to protect | ny requested informany any interest transfi | nation to, and erred by this | |
| *4. Authorize and required. | uest the attorneys of record in t | he application to | insert the application nu | mber and filing date | above when | |
| (Signalura d'invention) | ing the state of t | Ti sen | 12/16 Assignment Executed) | (Defee Accilicate | /18 | |
| Allen R. Parker, Jr. | | | rose Place, Lancaster, | CA 03536 | The second of th | |
| (inventor's Typed Name) | ······································ | | ess - Including Country) | | | |
| (Signature of Inventor) | | (Date | Assignment Executed) | (Date Applicati | on Executed) | |
| Anthony Piazza | | 2506 Paxton | Ave., Palmdale, CA 9 | 3551 | | |
| (Inventor's Typed Name) | } | (Mailing Addre | ss - Including Country) | ······································ | | |
| (Signature of Inventor) | | (Daii | : Assignment Executed) | (Date Applicat | on Executed) | |
| Hon Man Chan | | 14218 Same | is Rd Camon Court | N CA 01297 | | |
| (Inventor's Typed Name) | 14218 Sequoia Rd., Canyon Country, CA 91387 (Malling Address - Including Country) | | | | | |
| , and a sign and a sig | | for consuming a supply of | are morning exercised. | | | |

NASA Form 430 12/00 (1.1)

PREVIOUS EDITIONS ARE OBSOLETE



Assignment to the Government (by Government Employee)

| | | (nà anaci | ·····siik miiihin | haa) | |
|---|---|---|--|---|---|
| Title of Invention: | IMPROVED FIBER O | PTIC TEMPERA | TURE SENSORS FO | R CRYOGENIC | ENVIRONMENTS |
| inventor(s): | Allen R. Parker, Jr.; Ar | nthony Piazza; Ho | n Man Chan; Ryan M. | . Warner | |
| NASA Case No.: | DRC-016-022 A | oplication No.*: | 16/021,499 | Filing Date*: | 4/38/18 |
| | s to this Assignment and Agr t), as represented by the Adr | | | | |
| WHEREAS, the makin | g of this Assignment and Ag | reement is in accord | lance with 37 CFR Part 5 | 01; and | |
| WHEREAS, the under Patent on the above-er | signed inventor(s) has (have ntitled invention. |) executed, on the c | iste(s) indicated below, ar | application for Un | ited States |
| Assign to the Go territories and possess | n consideration of employme vernment my (our) full and ex ions, and my (our) entire rigi sel application(s) and any pat | clusive right in and it, title and interest i | to said invention within the n and to said application, | e United States of | |
| CFR 501.9(d), including chooses not to file an a 501.9(d), and such right the invention with power. | the Government my (our) fur g rights of priority under the I application in any foreign cou- ats will be subject to the rese at to grant licenses for all gov ign patent which may issue o | international Conver ntry, I (we) may req rvation to the Gover remmental purpose | ation of Paris (1883), as a uest rights in that country nment of a nonexclusive, | imended. If the Go , in accordance wi irrevocable, royalt | vemment In 37 CFR y-free license in |
| | ense of the Government, (a) manner with the Governmen ment. | | | | |
| *4. Authorize and rec required. | quest the attorneys of record | in the application to | insent the application nur | nber and filing date | above when |
| | | | | | |
| (Signature of Inventor) | | | Assignment Executed) | (Date Applica | ion Executed) |
| Allen R. Parker, Jr. | | | rose Piace, Lancaster, | CA 93536 | |
| Therentor's Typed Name | 7 | (Maning Addin | iss - Including Country) | | 1 1 |
| 15 ignition of the ends | | 70sie | //Z8//8 Assignment Executed) | (Date Applica) | on (secures) |
| Anthony Piazza | | 2506 Paxton | Ave., Palmdale, CA 9 | 3551 | |
| (Inventor's Typed Name | ») | (Mailing Addre | ss - Including Country) | | |
| (Signature of Inventor) | | | Assignment Executed) | (Date Applicat | ion Executed) |

NASA Form 439 12/00 (1.1)

Hon Man Chan

(Inventor's Typed Name)

PREVIOUS EDITIONS ARE OBSOLETE

(Mailing Address - Including Country)

14218 Sequoia Rd., Canyon Country, CA 91387

PATENT REEL: 046228 FRAME: 0039



Assignment to the Government

| (by Government Employee) | | | | | | |
|---|---|----------------|---------------------|--------------|--|--|
| Title of Invention: IMPROVED FIBER OPTIC TE | MPERATURE SEN | SORS FOR | CRYOGENIC | ENVIRONMENTS | | |
| Inventor(s): Allen R. Parker, Jr.; Anthony P. | azza; Hon Man Chan | i; Ryan M. W | /arner | | | |
| NASA Case No.: DRC-016-022 Application | No.*: 16/03/ | /449 F | iling Date*: | 6/38/18 | | |
| WHEREAS, the parties to this Assignment and Agreement are the undersigned inventor(s) and the United States Government (hereafter Government), as represented by the Administrator of the National Aeronautics and Space Administration; | | | | | | |
| WHEREAS, the making of this Assignment and Agreement is | in accordance with 37 | CFR Part 501; | and | | | |
| WHEREAS, the undersigned inventor(s) has (have) executed Patent on the above-entitled invention. | l, on the date(s) indicate | ed below, an a | oplication for Unit | red States | | |
| NOW THEREFORE, in consideration of employment by the Government, the undersigned hereby: 1. Assign to the Government my (our) full and exclusive right in and to said invention within the United States of America, its territories and possessions, and my (our) entire right, title and interest in and to said application, and any corresponding continuation or divisional application(s) and any patent(s) that may issue therefrom. | | | | | | |
| 2. Agree to grant to the Government my (our) full and exclusive foreign rights in and to said invention, in accordance with 37 CFR 501.9(d), including rights of priority under the International Convention of Paris (1883), as amended. If the Government chooses not to file an application in any foreign country, I (we) may request rights in that country, in accordance with 37 CFR 501.9(d), and such rights will be subject to the reservation to the Government of a nonexclusive, irrevocable, royalty-free license in the invention with power to grant licenses for all governmental purposes. The terms of such reservation will appear, where practicable, in any foreign patent which may issue on such invention. | | | | | | |
| Agree, at the expense of the Government, (a) to execut (c) to cooperate in any manner with the Government in order Assignment and Agreement. | | | | | | |
| *4. Authorize and request the attorneys of record in the apprequired. | dication to insert the ap | olication numb | er and filing date | above when | | |
| (Signature of Inventor) | (Date Assignment | Executed) | (Date Applicati | on Executed) | | |
| • | 43 Windrose Place, I iling Address - Including | • | A 93536 | | | |
| (Signature of inventor) | (Date Assignment | | (Date Applicati | on Executed) | | |
| 2 | 6 Paxton Ave., Palm | • | 551 | | | |
| (Inventor's Typed Nemy) (Signature of inventor) (Ma | iling Address - Including 479/18 Date Assignment) | 3 | (Date Applicati | I Decuted) | | |

Hon Man Chan

(Inventor's Typed Name)

14218 Sequoia Rd., Canyon Country, CA 91387

(Mailing Address - Including Country)

NASA Form 430 12/00 (1.1) PREVIOUS EDITIONS ARE OBSOLETE

> **PATENT** REEL: 046228 FRAME: 0040

RECORDED: 06/28/2018