## 506610001 04/14/2021

### PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2

ersion v1.1 EPAS ID: PAT6656808

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

#### **CONVEYING PARTY DATA**

| Name              | Execution Date |
|-------------------|----------------|
| NICHOLAS C LANTZ  | 12/09/2019     |
| JENNIFER M DOWNEY | 12/13/2019     |
| BRIAN E VYHNALEK  | 12/13/2019     |

#### **RECEIVING PARTY DATA**

| Name:           | UNITED STATES GOVERNMENT ADMINISTRATOR OF NASA |
|-----------------|--|
| Street Address: | 300 E STREET, SW                               |
| City:           | WASHINGTON                                     |
| State/Country:  | D.C.   |
| Postal Code:    | 20546-0001                                     |

#### **PROPERTY NUMBERS Total: 1**

| Property Type       | Number   |  |
|---------------------|----------|--|
| Application Number: | 16662955 |  |

#### **CORRESPONDENCE DATA**

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Address Line 1: 21000 BROOKPARK ROAD

Address Line 2: 142-7

Address Line 4: CLEVELAND, OHIO 44135

| ATTORNEY DOCKET NUMBER: | LEW 19698-1           |
|-------------------------|-----------------------|
| NAME OF SUBMITTER:      | ROBERT H. EARP, III   |
| SIGNATURE:              | /Robert H. Earp, III/ |
| DATE SIGNED:            | 04/14/2021            |

#### **Total Attachments: 3**

source=GRC Info\_Template \_pto1595 LEW 19698-1#page1.tif source=GRC Info\_Template \_pto1595 LEW 19698-1#page2.tif source=GRC Info\_Template \_pto1595 LEW 19698-1#page3.tif

PATENT 506610001 REEL: 055920 FRAME: 0595

|   | RM COVER SHEET   |  |  |  |
|---|--|--|--|--|
| To the Director of the U.S. Patent and Trademark Office: Please record the attached documents or the new address(es) below.   |  |  |  |  |
| 1. Name of conveying party(ies) Nicholas C. Lantz, Jennifer M. Downey, Brian E. Vyhalek   | 2. Name and address of receiving party(ies) Name: United States of America, as represented by the Administrator of NASA Internal Address:  |  |  |  |
| Additional name(s) of conveying party(ies) attached? Yes No.  3. Nature of conveyance/Execution Date(s):  Execution Date(s) 12/09/18, 12/13/18, 12/13/18  Assignment Merger  Security Agreement Change of Name  Joint Research Agreement  Government Interest Assignment  Executive Order 9424, Confirmatory License  Other | Street Address: E Street, SW  City: Washington State: DC Country: USA Zip: 20546-0001  Additional name(s) & address(es) attached? Yes No   |  |  |  |
| A. Patent Application No.(s)  16/662,955  Additional numbers att  |  |  |  |  |
| 5. Name and address to whom correspondence concerning document should be mailed:  | 6. Total number of applications and patents involved:  |  |  |  |
| Name: Robert H. Earp, III Internal Address: MS 142-7  | 7. Total fee (37 CFR 1.21(h) & 3.41) \$  Authorized to be charged to deposit account   |  |  |  |
| Street Address: 21000 Brookpark Road  | Enclosed  None required (government interest not affecting title)  |  |  |  |
| City: Cleveland   | 8. Payment Information   |  |  |  |
| State: OH Zip: 44135  Phone Number: (216) 433-3663  Docket Number: LEW 19698-1  Email Address: Robert.Earp@nasa.gov   | Deposit Account Number Authorized UserName   |  |  |  |
| 9. Signature: /Robert H. Earp, III/   | 04/14/2021   |  |  |  |
| Signature  Robert H. Earp, III  Name of Person Signing  Documents to be recorded (including cover shee  | Total number of pages including cover sheet, attachments, and documents:  t) should be faxed to (571) 273-0140, or mailed to: f the USPTO, P.O.Box 1450, Alexandria, V.A. 22313-1450 |  |  |  |

PATENT

**REEL: 055920 FRAME: 0596** 



## Assignment to the Government (by Government Employee)

|   |  | inh annei  | ument cubic  | yee)                                      |  |
|---|--|--|--|---|--|
| Title of Invention:   | Cascaded Offset O  | ptical Modulator for   | Optical Communicat   | ìons                                      |  |
| Inventor(s)   | Nicholas C. Lantz,   | Jennifer M. Nappier  | , Brian E. Vyhnalek  |   |  |
| NASA Case No.:  | LEW 19698-1  | Application No.*   | 16/662,955   | Filing Date*:                             | 10/24/2019   |
| WHEREAS, the parti<br>Government (hereaft<br>Administration;                                    | es to this Assignmen<br>er Government), as r   | t and Agreement are<br>epresented by the A   | the undersigned inve<br>dministrator of the Na   | entor(s) and the U<br>tional Aeronautics  | nited States<br>Land Space   |
| WHEREAS, the mak  | ing of this Assignmer  | nt and Agreement is  | in accordance with 37  | CFR Part 501; as                          | nd   |
| WHEREAS, the unde<br>States Patent on the   | ersigned inventor(s) h<br>above-entitled invent  | ras (have) executed,<br>ion.   | on the date(s) indicat   | ed below, an appi                         | ication for United   |
| <ol> <li>Assign to the -<br/>America, its territorie.</li> </ol>                                | Government my (our)<br>s and possessions, a  | ifull and exclusive ri<br>nd my (our) entire ri  | overnment, the under<br>ght in and to said inve<br>ght, title and interest in<br>patent(s) that may is:  | ntion within the U<br>rand to said appli  | nited States of cation, and any                                      |
| accordance with 37 C<br>amended. If the Gove<br>country, in accordance<br>nonexclusive, irrevoc | CFR 501 9(d), includir<br>ernment chooses not<br>se with 37 CFR 501.9<br>able, royalty-free lice | ng rights of prionty u<br>to file an application<br>(d), and such rights<br>has in the invention | lusive foreign rights in<br>nder the International<br>in any foreign country<br>will be subject to the ri<br>with power to grant lic<br>acticable, in any foreig | Convention of Pa                          | ris (1883), as<br>est rights in that<br>Government of a<br>rinmental |
| 3. Agree, at the a information to, and (c interest transferred by                               | ) to cooperate in any  | manner with the Go   | e any document for, (i<br>vernment in order to a   | o) to deliver any re<br>illow the Governm | ent to protect any   |
| *4. Authorize and   | request the attorneys  | s of record in the app   | olication to insert the a  | pplication numbe                          | r and filling date   |
| above When required   | in.  | ŧ.   | I. Da tassica  | Sacre San Joseph                          |  |
| (Signature of Inventor)   |  | ······································   | Z/4/20/4<br>ite Assignment Executed  |   | <i>0</i> 14  |
| Michieles Ca  | L  |  |  |   |  |
| Tutted Black Series (Inventor's Typed Name  |  |  | ( <u>o.k.f.c.k. Asse (Lzv</u><br>ess - Including Country)  | asw on m                                  | na OSA   |
|   |  |  |  |   |  |
| (Signature of Inventor)   |  | (De  | ite Assignment Executed  | (Oate Applic                              | ation Executed)  |
| (inventor's Typed Name  | »)   | (Mailing Addr  | ess - including Country)   |   |  |
| (Signature of Inventor)   | ·····  | (Da  | ite Assignment Executed  | ) (Date Applic                            | ation Executed)  |
| (Inventor's Typed Name  | <u> </u>   | (Mailing Addr  | ess - Including Country)   |   |  |

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PATENT REEL: 055920 FRAME: 0597



# Assignment to the Government (by Government Employee)

|   | ;  | (by Gover  | ument Embio  | yee)   |   |
|---|--|--|--|--|---|
| Title of Invention:   | Cascaded Offset Optica   | al Modulator for   | Optical Communication  | ons  |   |
| Inventor(s):  | Nicholas C. Lantz, Jenr  | nifer N. Downey  | , Brian E. Vyhnalek  |  |   |
| NASA Case No.:  | <u>LEW 19698-1</u> Ap  | pplication No.*:   | 16/662,955   | Filing Date*:  | 10/24/2019  |
| WHEREAS, the part<br>Government (hereaf<br>Administration;                                      | ies to this Assignment an<br>ter Government), as repre   | d Agreement are<br>esented by the A  | e the undersigned inver<br>dministrator of the Nati  | ntor(s) and the Ur<br>ional Aeronautics  | nited States<br>and Space   |
| WHEREAS, the mak  | ing of this Assignment an  | d Agreement is   | in accordance with 37  | CFR Part 501; ar   | <u>d</u>  |
| WHEREAS, the undensities on the states Patent on the  | ersigned inventor(s) has (<br>above-entitled invention.  | have) executed,  | on the date(s) indicate  | ed below, an appl  | cation for United   |
| <ol> <li>Assign to the<br/>America, its territorie</li> </ol>                                   | in consideration of emplo<br>Government my (our) full<br>s and possessions, and n<br>uation or divisional applic                               | and exclusive ri<br>ny (our) entire ri   | ght in and to said inver<br>ght, title and interest in   | ition within the Ur<br>and to said appli   | tited States of<br>cation, and any                                |
| accordance with 37 (<br>amended. If the Gove<br>country, in accordance<br>nonexclusive, irrevoc | t to the Government my (open to the Government chooses not to file with 37 CFR 501.9(d), able, royalty-free license of such reservation will a | ghts of priority u<br>le an application<br>and such rights<br>in the invention | nder the International C<br>in any foreign country,<br>will be subject to the re<br>with power to grant lice | Convention of Par<br>I (we) may reque<br>servation to the C<br>nses for all gove | is (1883), as<br>est rights in that<br>Government of a<br>nmental |
| nformation to, and (c   | expense of the Governme<br>) to cooperate in any mar<br>y this Assignment and Ag   | ner with the Go  | e any document for, (b<br>vernment in order to al  | ) to deliver any re<br>low the Governm   | quested<br>ent to protect any                                     |
| *4. Authorize and above when required   | request the attorneys of   | record in the ap   | olication to insert the ap   | oplication number  | and filing date   |
| Jarriles N.   | Power  | 1  | 2//3/2019  | 10/24/20   | 19  |
| (Signaturé of Inventor)   | /  | (De  | ite Assignment Executed)   | 3 3 7 7  | etion Executed)   |
| 1000186   | N. Downey  | <u> 2290</u>   |  | gr Village   | <u>,014 99196-115</u> 4   |
| (Inventor's Typed Nami  |  | (Mailing Addr  | ess - Including Country)   | \$ cor.  | · -   |
| 12-6-4  | March 1  |  | U/13/29/1  | 10/24/20   | 19  |
| Signature of Inventor)  |  | (De  | ité Assignment Executed)   |  | ation Executed)   |
|   | MHUALEK  | ***************************************  |  | BRMA, OH Y   | 4/34 USA  |
| (Inventor's Typed Name  | <i>∍)</i>  | (Mailing Addr  | ess - Including Country)   |  |   |
| (Signature of Inventor)   |  | (Ds  | ite Assignment Executed)   | (Date Applica  | ation Executed)   |
|   |  | ***************************************  |  |  |   |
| Inventor's Typed Name   | 9)   | (Mailing Addn  | ess - Includina Country)   | · · · · · · · · · · · · · · · · · · ·  |   |

PATENT REEL: 055920 FRAME: 0598

RECORDED: 04/14/2021

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