

National Aeronautics and
Space Administration
Jet Propulsion Laboratory
NASA Management Office
4800 Oak Grove Drive
Pasadena, CA 91109-8099



PATENT APPLICATION

Reply to Attn of:

SJ

Director of the United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
Via Fax 571-273-0140

Sir:

Please record the attached original document or copy thereof.

- (1) **Conveying party:** **H. Frank Greer, Todd J. Jones, Richard P. Vasquez, Michael E. Hoenk, Matthew R. Dickie and Shouleh Nikzad**
- (2) **Receiving party:** **California Institute of Technology**
1201 East California Blvd., Pasadena, California 91125
- (3) **Nature of conveyance:** **Assignment**
- (4) **Application No.:** **NPO-45911-1-CU**
Execution Date: **July 9, 2009**
Serial No.: **12/508,006**
Filing Date: **July 23, 2009**
- (5) **Return recorded document to:** **Mark W. Homer**
NASA Management Office, M/S 180-200
Jet Propulsion Laboratory, 4800 Oak Grove Drive,
Pasadena, CA 91109
- (6) **Total number of applications involved:** **One**
- (7) **Total fee (37 CFR 3.41):** **\$40**
- (8) **Charge to:** **Deposit Account No. 14-0116**
- (9) **To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document. The cover sheet consists of one page.**

Total number of pages including cover sheet, attachments and documents: 5

Respectfully,

Mark W. Homer
Patent Attorney
Registration No. 41,848
(818) 354-7770

Enclosure:
Assignment

CH \$40.00 140116 12508006

NPO-45911-1-CU
NASA Case No.ASSIGNMENTH. Frank GREER, Todd J. JONES, Richard P. VASQUEZ, Michael E. HOENK, Matthew R. DICKIE and
Shouieh NIKZAD

the ASSIGNOR(S) herein, and the inventor(s) of a new or improved and useful METHOD TO IMPROVE INDIUM BUMP BONDING VIA INDIUM OXIDE REMOVAL USING A MULTI-STEP PLASMA PROCESS (JPL Docket No. NPO-45911-1-CU), desiring to acquire patent protection therefor and for their existing improvement(s) therein, if any, (referred to hereinafter as the INVENTION), have executed concurrently herewith an application for Letters Patent of the United States of America.

The California Institute of Technology, the ASSIGNEE herein, a corporation organized and existing under the laws of the State of California, and having a place of business at Pasadena, California, desires to acquire the entire right, title and interest in the INVENTION, and all patent application(s) filed or pending, and Letters Patent granted and issued on the INVENTION.

NOW, THEREFORE, for valuable consideration, the receipt and legal sufficiency of which is acknowledged, the ASSIGNOR(S) hereby assign, transfer, and set over to the ASSIGNEE, its successors and assigns, the entire right, title and interest in the INVENTION and the aforementioned application for Letters Patent, together with any other application(s), including divisional, continuing and continuations-in-part application(s) of the ASSIGNOR(S) pertaining to or based upon the INVENTION, and any and all Letters Patent which have been or may be granted and issued thereon by the United States of America or foreign countries, together with and including all priority rights deriving from applications subject to this Assignment filed in the United States of America; and

The ASSIGNOR(S) hereby authorize and empower the ASSIGNEE, its successors and assigns, to apply for and obtain, in its or their own names, Letters Patent in any and all countries foreign to the United States in which applications for Letters Patent, or like protection, for the INVENTION, may be filed; and

The ASSIGNOR(S) agree, at the request of the ASSIGNEE, to execute any and all domestic and foreign applications for Letters Patent, to execute all other papers and documents and to perform all lawful acts that the requestor may deem necessary or desirable to obtain Letters Patent, to secure the grant of such Letters Patent and to protect and vest in the ASSIGNEE, or its successors or assigns, the entire right, title and interest in the INVENTION.

WITNESS my hand at Pasadena, CA this 9th day of July, 2009.

H. Frank Greer
H. Frank Greer

State of CALIFORNIA)
County of LOS ANGELES)

On July 9, 2009 before me, Karen L. McLaughlin, Notary Public,
personally appeared H. Frank Greer

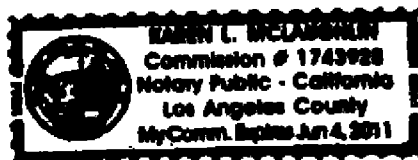
who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that ~~he~~^{she} executed the same in ~~his~~^{her} authorized capacity, and that by ~~his~~^{her} signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Karen L. McLaughlin
Notary Public

(SEAL)

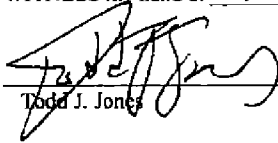


PATENT
REEL: 023008 FRAME: 0814

NPO-45911-1-CU

Page Two

WITNESS my hand at Pasadena, CA this 9th day of July, 2009.


Todd J. Jones

State of CALIFORNIA)
County of LOS ANGELES)

On July 9, 2009 before me, Karen L. McLaughlin, Notary Public
personally appeared Todd J. Jones

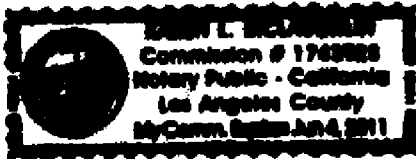
who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that ~~he~~^{she} executed the same in ~~his~~^{her} authorized capacity, and that by ~~his~~^{her} signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

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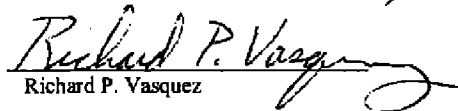
WITNESS my hand and official seal.


Notary Public

(SEAL)



WITNESS my hand at Pasadena, CA this 9th day of July, 2009.


Richard P. Vasquez

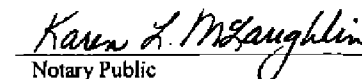
State of CALIFORNIA)
County of LOS ANGELES)

On July 9, 2009 before me, Karen L. McLaughlin, Notary Public
personally appeared Richard P. Vasquez

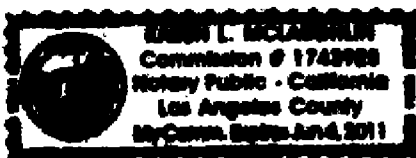
who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that ~~he~~^{she} executed the same in ~~his~~^{her} authorized capacity, and that by ~~his~~^{her} signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

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Notary Public

(SEAL)



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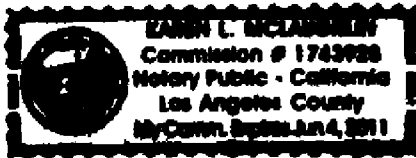
Page Three

WITNESS my hand at Pasadena, CA this 9th day of July, 2009.

Michael E. Hoenk
Michael E. Hoenk

State of CALIFORNIA)
County of LOS ANGELES)

On July 9, 2009 before me, Karen L. McLaughlin, Notary Public
personally appeared Michael E. Hoenk



who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that ~~he~~^{she} executed the same in ~~his~~^{her} authorized capacity, and that by ~~his~~^{her} signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

(SEAL)

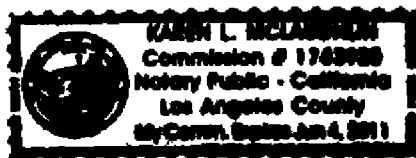
Karen L. McLaughlin
Notary Public

WITNESS my hand at Pasadena, CA this 9th day of July, 2009.

Matthew R. Dickie
Matthew R. Dickie

State of CALIFORNIA)
County of LOS ANGELES)

On July 9, 2009 before me, Karen L. McLaughlin, Notary Public
personally appeared Matthew R. Dickie



who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same in his/her authorized capacity, and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

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WITNESS my hand and official seal.

(SEAL)

Karen L. McLaughlin
Notary Public

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Page Four

WITNESS my hand at Pasadena, CA this 9 day of July, 2009.

Sholeh Nikzad
Sholeh Nikzad

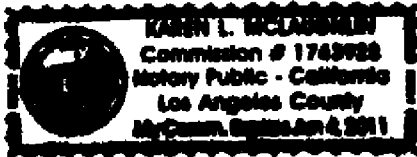
State of CALIFORNIA)
County of LOS ANGELES)

On July 9, 2009 before me, Karen L. McLaughlin, Notary Public
personally appeared Sholeh Nikzad

who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that ~~he~~^{she} executed the same in ~~his~~^{her} authorized capacity, and that by ~~his~~^{her} signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

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(SEAL)

Karen L. McLaughlin
Notary Public