PATENT ASSIGNMENT

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
Michael D. Bulatowicz	02/02/2011
Michael S. Larsen	02/02/2011

RECEIVING PARTY DATA

Name:	Northrop Grumman Systems Corporation
Street Address:	1840 Century Park East
City:	Los Angeles
State/Country:	CALIFORNIA
Postal Code:	90067

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	13020432

CORRESPONDENCE DATA

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ATTORNEY DOCKET NUMBER: NG(NSD)019066 US PRI

NAME OF SUBMITTER: Christopher P. Harris

Total Attachments: 2

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PATENT

REEL: 025740 FRAME: 0483

OF \$40.00 13020432

ASSIGNMENT

WHEREAS, I, Michael D. Bulatowicz, together with Michael S. Larsen, hereinafter referred to as Assignor have jointly invented certain new and useful improvements in **MAGNETO-OPTICAL TRAP FOR COLD ATOM BEAM SOURCE**, described in an application for United States Letters Patent, executed by me on the date as stated below;

WHEREAS, Northrop Grumman Systems Corporation, a Delaware corporation, having its principal place of business at 1840 Century Park East, Los Angeles, CA 90067, United States of America, hereinafter referred to as Assignee, is desirous of acquiring the entire right, title and interest in, to and under said improvements and said application:

NOW, THEREFORE, in consideration of Assignor's obligations to Northrop Grumman Systems Corporation, and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, Assignor has sold, assigned, transferred and set over, and by these presents does hereby sell, assign, transfer and set over, unto Assignee, its successors, legal representatives and assigns, Assignor's entire right, title and interest in, to and under said improvements, and said application and all divisions, renewals, continuations, and continuations-in-part thereof, and all United States Letters patent that may be granted thereon and all reissues and extensions thereof, and all applications for Letters Patent that may hereafter be filed for said improvements in any country or countries foreign to the United States, including the full right to claim for any such application the priority benefits of the International Convention for the Protection of Industrial Property and other priority-conferring treaties, and all Letters Patent that may be granted for said improvements in any country or countries foreign to the United States and all extensions, divisions, continuations, continuations-in-part, renewals and reissues thereof; and Assignor hereby authorizes and requests the Commissioner of Patents and Trademarks of the United States, and any official of any country or countries foreign to the United States, whose duty it is to issue patents on applications as aforesaid, to issue all Letters Patent for said improvements to said Assignee, its successors, legal representatives and assigns, in accordance with the terms of this instrument;

Assignor hereby acknowledges that at the time of making the improvements herein identified, Assignor was under an obligation to assign to Assignee, Assignor's entire right, title and interest in, to and under said improvements;

Assignor hereby covenants that Assignor has full right to convey the interest herein assigned, and that Assignor has not executed, and will not execute, any agreement in conflict herewith and that Assignee, Northrop Grumman Systems Corporation, its successors, assigns and other legal representatives shall have the right to hold and enjoy for its and their own use and benefit, to the end of the term or terms for which such Letters Patent shall or may be granted, reissued or extended as fully and completely as the same right could have been held and enjoyed by Assignor had this Assignment not been made.

Assignor hereby further covenants and agrees to communicate to Assignee, its successors, legal representatives and assigns, any and all facts known to Assignor respecting said improvements; to promptly provide Assignee with all documents relating to said improvements, said invention, and said Letters Patent as may be known or accessible to Assignor; to testify as to the same in any interference or litigation or other legal proceedings related thereto; to sign all lawful papers, execute all extensions, continuations, continuations-in-part, divisional and reissue applications; and to make all rightful oaths or declarations and generally do everything possible to aid Assignee, its successors, legal representatives and assigns in obtaining and enforcing all the rights herein conveyed for said improvements in all countries without further compensation, but at the expense of Assignee, its successors, legal representatives and assigns.

representatives and assigns in obtaining and enforcing all the rights herein conveyed for said improvements in all
countries without further compensation, but at the expense of Assignee, its successors, legal representatives and ass
IN WITNESS WHEREOF, the undersigned has executed and delivered this instrument this day of
IN WITNESS WHEREOF, the undersigned has executed and delivered this instrument this day of, 2011, and has executed the referenced patent application on the day of, 2011.
FEDERAL 2011.
Michael D. Bulatowicz
Michael D. Bulatowicz
STATE OF CALIFORNIA)
COUNTY OF LOS ANGLES) ss
On tablusty 2, 2011 before me, LAWA LEICH SACE, NOALY Public , personally appeare
Michael D. Bulatowicz, proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are
subscribed to this instrument and acknowledged to me that he/she/they executed the same in his/ber/their authorized
capacity(ies), and that by his/her/their signature(s) on the instrument to be the person(s), or the entity upon behalf of
which the person(s) 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.

LAURA LEIGH SAGE
Commission # 1865568
Notary Public - California
Los Angeles County
My Comm. Expires Oct 17,2913

PATENT REEL: 025740 FRAME: 0484

IN WITNESS WHEREOF, the undersigned has executed ar	application on theday of	
Feblually, 2011.	milet of Tree.	
	Michael S. Larsen	
STATE OF CALIFORNIA)		
COUNTY OF LOS ANCELES) ss		
On Ebluary 2 politic before me, Alla Letter Michael S. Larsen, proved to me on the basis of satisfactory evide	Notally Public personally appeare	d
Michael S. Larsen, proved to me on the basis of satisfactory evide subscribed to this instrument and acknowledged to me that he/she capacity(ies), and that by his/ber/their signature(s) on the instrument which the person(s) acted, executed the instrument.	e/they executed the same in his/her/their authorized	
I certify under PENALTY OF PERJURY under the laws of the Stat correct.	te of California that the foregoing paragraph is true a	and
WITNESS my hand and official seal.		
Land Lich Co		

(SEAL)

LAURA LEIGH SAGE
Commission # 1865568
Notary Public - California
Los Angeles County
My Comm. Expires Oct 17, 2013

PATENT REEL: 025740 FRAME: 0485

RECORDED: 02/03/2011

Notary's Signature