# 504189098 01/20/2017

# PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4235773

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

#### **CONVEYING PARTY DATA**

Name	Execution Date
ERIC PETER GOODWIN	06/16/2015
ZHIQIANG LIU	01/20/2017

#### **RECEIVING PARTY DATA**

Name:	NIKON CORPORATION	
Street Address:	SHINAGAWA INTERCITY TOWER C, 2-15-3	
Internal Address:	KONAN, MINATO-KU	
City:	TOKYO	
State/Country: JAPAN		
Postal Code:	108-6290	

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

Property Type	Number
Application Number:	14736118

### **CORRESPONDENCE DATA**

**Fax Number:** (520)623-2418

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:** 520-770-8700

Email: pat-dept@quarles.com
Correspondent Name: YAKOV SIDORIN

Address Line 1: 1 SOUTH CHURCH AVE., SUITE 1700

Address Line 4: TUCSON, ARIZONA 85701

ATTORNEY DOCKET NUMBER:	152833.00052/PA1547	
NAME OF SUBMITTER:	YAKOV SIDORIN	
SIGNATURE:	/Yakov Sidorin/	
DATE SIGNED:	01/20/2017	

### **Total Attachments: 4**

source=152833\_00052\_Assignment\_executed\_Goodwin\_and\_Liu#page1.tif source=152833\_00052\_Assignment\_executed\_Goodwin\_and\_Liu#page2.tif source=152833\_00052\_Assignment\_executed\_Goodwin\_and\_Liu#page3.tif source=152833\_00052\_Assignment\_executed\_Goodwin\_and\_Liu#page4.tif

PATENT 504189098 REEL: 041029 FRAME: 0197

Attorney Docket No. 152833.00052/PA1547

### ASSIGNMENT

ASSIGNORS:

Eric Peter Goodwin Zhiqiang Liu

ASSIGNEE:

NIKON CORPORATION

Shinagawa Intercity Tower C, 2-15+3

Konan, Minato-ku Tokyo, 108-6290, Japan

STATE OF INCORPORATION OF ASSIGNEE:

JAPAN

MINIMIZATION OF ABBE ERROR CAUSED BY TIP OR TILT BETWEEN AN ENCODER HEAD AND A WAFER STAGE FOR ARBITRARY LOCATION OF A CENTER OF ROTATION

ATTORNEY DOCKET NO.: 152833.00052/PA1547

APPLICATION NO.:

14/736,118

FILING DATE:

June 10, 2015

Assignor is a joint inventor of a certain new and useful invention (the "Invention") described in a United States patent application (the "Application") bearing the attorney docket number and title listed above. The application number assigned by the USPTO and filing date of the invention are as shown. If the Application number and filing date are not indicated above, the undersigned hereby authorizes the appointed attorney to add the filing date and serial number of said Application to this document.

For valuable consideration, receipt of which is acknowledged, each Assignor hereby assigns to Assignee (which term shall include Assignee's successors and assigns), all of Assignor's right, title and interest in the Invention, all improvements therein, the Application and all priority rights arising therefrom, and any patents, and any reissues and extensions thereof, which issue in any country upon any patent applications which correspond with any of the following: the Application; any application that claims priority from the Application (including as a divisional, continuation-in-whole or continuation-in-part, or as an application claiming priority from a provisional application); or any application based in whole or in part on any of the foregoing.

1 of 2

PATENT REEL: 041029 FRAME: 0198 Attorney Docket No. 152833.00052/PA1547

Each Assignor further agrees that such Assignor and Assignor's heirs and legal representatives will, without further consideration, cooperate with Assignee in the prosecution of all of the above applications, execute, verify, acknowledge and deliver all such further papers, including applications for patents and for reissues and extensions therefor, and instruments of assignment and transfer thereof, and will communicate any facts known to Assignor relating to the Invention, to obtain or maintain or enforce patents for the Invention and improvements therein in any and all countries and to vest title thereto in Assignee. Each Assignor further agrees that such Assignor will, without further compensation to Assignor during the term of such Assignor's employment by Assignee and thereafter for reasonable compensation as determined by Assignee, perform such other acts as may be reasonably required when requested by Assignee, including attending depositions, preparing and executing declarations and affidavits and testifying as a witness, to obtain or maintain or enforce patents for the Invention and improvements therein in any and all countries and to vest title thereto in Assignee.

Each Assignor hereby executes this instrument on the date set forth below.

Date: 6/16/2015	Eric Peter Goodwin, Assignor
Date:	Zhigiang Liu, Assignor

## ASSIGNMENT

ASSIGNORS: Eric Peter Goodwin Zhiqiang Liu

**ASSIGNEE:** 

NIKON CORPORATION

Shinagawa Intercity Tower C, 2-15-3

Konan, Minato-ku Tokyo, 108-6290, Japan

STATE OF INCORPORATION OF ASSIGNEE: JAPAN

TITLE: MINIMIZATION OF ABBE ERROR CAUSED BY TIP OR TILT BETWEEN AN ENCODER HEAD AND A WAFER STAGE FOR ARBITRARY LOCATION OF A CENTER OF ROTATION

ATTORNEY DOCKET NO.: 152833.00052/PA1547

APPLICATION NO.:

14/736,118

FILING DATE:

June 10, 2015

Assignor is a joint inventor of a certain new and useful invention (the "Invention") described in a United States patent application (the "Application") bearing the attorney docket number and title listed above. The application number assigned by the USPTO and filing date of the invention are as shown. If the Application number and filing date are not indicated above, the undersigned hereby authorizes the appointed attorney to add the filing date and serial number of said Application to this document.

For valuable consideration, receipt of which is acknowledged, each Assignor hereby assigns to Assignee (which term shall include Assignee's successors and assigns), all of Assignor's right, title and interest in the Invention, all improvements therein, the Application and all priority rights arising therefrom, and any patents, and any reissues and extensions thereof, which issue in any country upon any patent applications which correspond with any of the following: the Application; any application that claims priority from the Application (including as a divisional, continuation-in-whole or continuation-in-part, or as an application claiming priority from a provisional application); or any application based in whole or in part on any of the foregoing.

PATENT<sup>of 2</sup>
REEL: 041029 FRAME: 0200

Attorney Docket No. 152833.00052/PA1547

Each Assignor further agrees that such Assignor and Assignor's heirs and legal representatives will, without further consideration, cooperate with Assignee in the prosecution of all of the above applications, execute, verify, acknowledge and deliver all such further papers, including applications for patents and for reissues and extensions therefor, and instruments of assignment and transfer thereof, and will communicate any facts known to Assignor relating to the Invention, to obtain or maintain or enforce patents for the Invention and improvements therein in any and all countries and to vest title thereto in Assignee. Each Assignor further agrees that such Assignor will, without further compensation to Assignor during the term of such Assignor's employment by Assignee and thereafter for reasonable compensation as determined by Assignee, perform such other acts as may be reasonably required when requested by Assignee, including attending depositions, preparing and executing declarations and affidavits and testifying as a witness, to obtain or maintain or enforce patents for the Invention and improvements therein in any and all countries and to vest title thereto in Assignee.

Each Assignor hereby executes this instrument on the date set forth below.

Date:	Eric Peter Goodwin, Assignor
Date: <u>January</u> 20 , 2017	Lindugueses Zhiqiang Liu. Assignor

PATENT<sup>2 of 2</sup>
REEL: 041029 FRAME: 0201

**RECORDED: 01/20/2017**