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03-18-2005

U.S. DEPARTMENT OF COMMERCE United States Patent and Trademark Office

To the Director of the U.S. Patent and Trademark Office: Please record the attached documents or the newaddress(es) below. 1. Name of conveying party(ies)/Execution Date(s): 2. Name and address of receiving party(ies) MAURITS VAN DER SCHAAR Name: ASML NETHERLANDS B.V. JEROEN HUIJBREGTSE Internal Address: _____ SICCO IAN SCHETS Execution Date(s) 03/02/05; 03/02/05; 02/18/05; 02/18/05 Street Address: De Run 6501 Additional name(s) of conveying party(ies) attached? Yes 3. Nature of conveyance: X Assignment Merger City: Veldhoven Security Agreement Change of Name State: Government Interest Assignment Country: The Netherlands Zip: NL-5504 DR Executive Order 9424, Confirmatory License Other Additional name(s) & address(es) attached? X Yes \square No This document is being filed together with a new application. 4. Application or patent number(s): A. Patent Application No.(s) B. Patent No.(s) 11/007,578 Additional numbers attached? Yes X No 5. Name and address to whom correspondence 6. Total number of applications and patents concerning document should be mailed: involved: Name: PILLSBURY WINTHROP LLP 7. Total fee (37 CFR 1.21 (h) & 3.41) \$ 40.00 Internal Address: P.O. Box 10500 Authorized to be charged by credit card X Authorized to be charged to deposit account **Enclosed** Street Address: 1600 Tysons Boulevard None required (government interest not affecting title) 8. Payment Information City: McLean 081468-0313957 Credit Card Last 4 Numbers State:_____ VA Zip: 22102 Expiration Date Phone Number: (703) 905-2000 Deposit Account Number 033975 Fax Number: (703) 905-2500 Authorized User Name Email Address: singram@pillsburywinthrop.com 9. Signature: March 10, 2005 Signature Date Total number of pages including cover Sean L. Ingram, Reg. No. 48283

Documents to be recorded (including cover sheet) should be faxed to (703) 306-5995, or mailed to:

Mall Stop Assignment Recordation Services, Director of the USPTO, P.O.Box 1450, Alexandria, V.A. 22313-1450

03/17/2005 ECOOPER 00000222 033975 11007578

Name of Person Signing

01 FC:8021 40.00 DA

> PATENT REEL: 016364 FRAME: 0678

sheet, attachments, and documents:

PATENTS ONLY (I	
Name of conveying party(ies):	
BART LUC SWINNEN	
Additional name(s) of conveying party(ies) attached?	Yes X No
2. Name and address of receiving party(ies)	
Name: <u>IMEC v.z.w.</u>	
Internal Address:	
Street Address: Kapeldreef 75	
City: Leuven State: Belgium	ZIP: <u>B-3001</u>
Name and address of receiving party(ies) Name: Internal Address:	
Street Address:	
City: State:	
Additional name(s) & address(es) attached?	Yes X No
Application number(s) or patent number(s):	
If this document is being filed together with a new applica	ation, the execution date of the application is:
A. Patent Application No.(s)	B. Patent No.(s)
Additional numbers attached?	☐ Yes ဩ No

PATENT REEL: 016364 FRAME: 0679 Please return signed/recorded to:

Pillsbury Winthrop LLP Intellectual Property Group P.O. Box 10500 McLean, VA 22102

USA Patent Appln. Sole or Joint

For Inventions made outside USA executed with or after application Atty. Dkt. P 313957 P-1756.010-US

Client Ref.

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ASSIGNMENT OF NONPROVISIONAL APPLICATION

NONPROVISIONAL

the unders		10.00) and other good and valuable consideration paid to each of						
	signed, to wit:							
INSERT	(1) VAN DER SCHAAR, Maurits	(2) HUIJBREGTSE, Jeroen						
NAME(S)		(4) SWINNEN, Bart Luc						
INVENTOR		x box if continued on page 2						
the receipt	t and sufficiency of which are hereby acknowledged t	by the undersigned who at the request of, hereby sell(s), assign(s)						
and transfe	•	, g						
INSERT	ASML NETHERLANDS B.V.							
NAME(S) C	DF De Run 6501							
ASSIGNEE	S(S) NL-5504 DR Veldhoven							
& ADDRES	SS(ES) The Netherlands							
	AND							
INSERT	IMEC v.z.w.							
NAME(S) O	OF Kapeldreef 75							
ASSIGNEE								
& ADDRES	SS(ES) Belgium							
(hereinafter de	esignated "ASSIGNEE") the entire right, title and interest for the United Si	ates of America as defined in 35 U.S.C. 100, in the invention and all applications including						
any and all divi	isions, continuations, substitutes, and reissues thereof; and all resulting p	patents, known as						
TITLE OF	Lithagraphic apparatus, mathed of datas	ining a model parameter, device manufacturing mathed and device						
INVENTION		ining a model parameter, device manufacturing method, and device						
	manufactured thereby							
	for which the undersigned executed an ar	inlication for Latters Patents of the United States of America:						
for which the undersigned executed an application for Letters Patents of the United States of America:								
NOTE → →	A) C even date herewith							
NOTE → →	· · · · · · · · · · · · · · · · · · ·							
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(Complete line A, B an	(B) on on old/or C) (C) in U.S. Appln. No. 11/007,578 AND the undersigned hereby authorize(s) and request(s) the	United States Commissioner of Patents and Trademarks to issue said Letters Patent to the						
(Complete line A, B an	(B) on ond/or C) (C) in U.S. Appln. No. 11/007,578 AND the undersigned hereby authorize(s) and request(s) the U.S. for its interest as ASSIGNEE, its successors, assigns and legals represented in the U.S. Appln. No. 11/007,578							
(Complete line A, B an said ASSIGNEI hereinafter act	(B) on nd/or C) (C) in U.S. Appln. No. 11/007,578 AND the undersigned hereby authorize(s) and request(s) the tension of the interest as ASSIGNEE, its successors, assigns and legals repret on behalf of said ASSIGNEE; AND the undersigned hereby agree(s) to testify and execute as	United States Commissioner of Patents and Trademarks to issue said Letters Patent to the sentatives; the undersigned agree(s) that the attorney of record in said application shall by papers for ASSIGNEE, its successors, assigns and legal representatives, deemed						
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(Complete line A, B and said ASSIGNE hereinafter act essential by AS NOTE → → recordation of the same: 1): Name: 2)	AND the undersigned hereby authorize(s) and request(s) the tension of the interest as ASSIGNEE, its successors, assigns and legals represent on behalf of said ASSIGNEE; AND the undersigned hereby agree(s) to testify and execute as SSIGNEE to ASSIGNEE'S full protection and title in and to the invention in The undersigned hereby authorize(s) Pillsbury Winthrop LLP of this document. INVENTORS VAN DER SCHAAR, Maurits	United States Commissioner of Patents and Trademarks to issue said Letters Patent to the sentatives; the undersigned agree(s) that the attorney of record in said application shall by papers for ASSIGNEE, its successors, assigns and legal representatives, deemed hereby transferred. If the above address to insert hereon any further identification necessary or desirable for DATE SIGNED 1 march 2005 Line Verkuijlen L march 2005						
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Name:

PAT-114 1/00

PATENT REEL: 016364 FRAME: 0680 Please return signed/recorded to:

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USA Patent Appln. Sole or Joint

For Inventions made outside USA

executed with or after application

Atty. Dkt. P 313957 P-1756.010-US

M# Client Ref.

NONPROVISIONAL

ASSIGNMENT OF NONPROVISIONAL APPLICATION

NONPROVISIONAL

In consideration of the sum of Ten Dollars (\$10.00) and other good and valuable consideration paid to each of									
the undersigned, to wit:									
INSERT		(1)	VAN DER SCHAAR, Ma	nurits	(2) HUI	IJBREGTSE, Jeroen			
NAME(S) OF		<u> </u>	SCHETS, Sicco lan		(4) SW	INN	NEN, Bart Luc		
INVENTOR(S))	(5)			☐ x b	ox i	f continued on page 2		
the receipt ar and transfer(INSERT NAME(S) OF ASSIGNEE(S) & ADDRESS(I	s) unto:	AS De NL The	cy of which are hereby ac ML NETHERLANDS B.V Run 6501 -5504 DR Veldhoven e Netherlands AND EC v.z.w.	•	e undersigned who	at th	he request of, hereby sell(s), assign(s)		
NAME(S) OF			peldreef 75						
ASSIGNEE(S))		3001 Leuven	 					
& ADDRESS(Ве	lgium						
(hereinafter designated "ASSIGNEE") the entire right, title and interest for the United States of America as defined in 35 U.S.C. 100, in the invention and all applications including any and all divisions, continuations, substitutes, and reissues thereof; and all resulting patents, known as									
TITLE OF INVENTION		Lithographic apparatus, method of determining a model parameter, device manufacturing method, and device manufactured thereby							
for which the undersigned executed an application for Letters Patents of the United States of America: NOTE → → (A) ☐ even date herewith (B) ☐ on									
line A, B and/	or C)	(C)	in U.S. Appln. No.	11/007,578	file	d	9 December 2004		
AND the undersigned hereby authorize(s) and request(s) the United States Commissioner of Patents and Trademarks to issue said Letters Patent to the said ASSIGNEE, for its interest as ASSIGNEE, its successors, assigns and legals representatives; the undersigned agree(s) that the attorney of record in said application shall hereinafter act on behalf of said ASSIGNEE; AND the undersigned hereby agree(s) to testify and execute any papers for ASSIGNEE, its successors, assigns and legal representatives, deemed essential by ASSIGNEE to ASSIGNEE's full protection and title in and to the invention hereby transferred. NOTE The undersigned hereby authorize(s) Pillsbury Winthrop LLP of the above address to insert hereon any further identification necessary or desirable for recordation of this document.									
<u>l</u> 1):	INVENTORS			DATE SIGNED		WITNESSES			
	/AN DE	N DER SCHAAR, Maurits			_	1			
Name: F 3)		_	SE, Jeroen Cco Ian	-	18-2-2005	_	bia Verkuijlen		
4) Name: S	WINNE	N F	Bart Luc						

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5) Name:

PAT-114 1/00

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USA Patent Appln. Sole or Joint

For Inventions made outside USA executed with or after application Atty. Dkt. P 313957 P-1756.010-US

Client Ref.

NONP	ROV	ISIO	NAL

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RECORDED: 03/10/2005

ASSIGNMENT OF NONPROVISIONAL APPLICATION

NONPROVISIONAL

In consideration of the sum of Ten Dollars (\$10.00) and other good and valuable consideration paid to each of the undersigned, to wit: INSERT (1) VAN DER SCHAAR, Maurits (2) HUIJBREGTSE, Jeroen NAME(S) OF (3) SCHETS, Sicco lan (4) SWINNEN, Bart Luc INVENTOR(S) x box if continued on page 2 the receipt and sufficiency of which are hereby acknowledged by the undersigned who at the request of, hereby sell(s), assign(s) and transfer(s) unto: **INSERT** ASML NETHERLANDS B.V. NAME(S) OF De Run 6501 ASSIGNEE(S) NL-5504 DR Veldhoven & ADDRESS(ES) The Netherlands AND INSERT IMEC v.z.w. Kapeldreef 75 NAME(S) OF ASSIGNEE(S) B-3001 Leuven & ADDRESS(ES) Belgium (hereinafter designated "ASSIGNEE") the entire right, title and interest for the United States of America as defined in 35 U.S.C. 100, in the invention and all applications including any and all divisions, continuations, substitutes, and reissues thereof; and all resulting patents, known as TITLE OF Lithographic apparatus, method of determining a model parameter, device manufacturing method, and device INVENTION manufactured thereby for which the undersigned executed an application for Letters Patents of the United States of America: NOTE → → (A) even date herewith (Complete (B) | on line A, B and/or C) (C) in U.S. Appln. No. 11/007,578 filed 9December 2004 AND the undersigned hereby authorize(s) and request(s) the United States Commissioner of Patents and Trademarks to issue said Letters Patent to the said ASSIGNEE, for its interest as ASSIGNEE, its successors, assigns and legals representatives; the undersigned agree(s) that the attorney of record in said application shall hereinafter act on behalf of said ASSIGNEE; AND the undersigned hereby agree(s) to testify and execute any papers for ASSIGNEE, its successors, assigns and legal representatives, deemed essential by ASSIGNEE to ASSIGNEE'S full protection and title in and to the invention hereby transferred. The undersigned hereby authorize(s) Pillsbury Winthrop LLP of the above address to insert hereon any further identification necessary or desirable for $\underline{\mathsf{NOTE}} \to \to$ recordation of this document. INVENTORS DATE SIGNED WITNESSES 1): VAN DER SCHAAR, Maurits Name: 2) HUIJBREGTSE, Jeroen Name: 3) SCHETS, Sicco lan Name: 4) SWINNEN, Bart Luc Name: 5) Name:

PATENT

REEL: 016364 FRAME: 0682

PAT-114 1/00