National Aeronautics and Space Administration

Jet Propulsion Laboratory NASA Management Office 4800 Oak Grove Drive Pasadena, CA 91109-8099





Feerly to Attn of:

su 2-8-01

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Sir:

Please record the attached original document or copy thereof.

(1) Conveying party: Jay F. Whitacre, Ratnakumar V. Bugga, William C. West

(2) Receiving party: California Institute of Technology

1201 East California Blvd., Pasadena, California 91125

(3) Nature of conveyance: Assignment

(4) Application No.: NPO-21015-1-CU/with New Patent Application

Execution Date: February 1, 2001

(5) Return recorded John H. Kusmiss

document to: NASA Management Office, M/S 180-801

Jet Propulsion Laboratory, 4800 Oak Grove Drive,

Pasadena, CA 91109

(6) Total number of applications involved: O

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: 2

Respectfully,

John H. Kusmiss
Patent Attornev

Registration No. 32,149

Jan H. Kurmin

(818) 354-7770

Enclosure:
Assignment

PATENT

REEL: 011553 FRAME: 0294

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ASSIGNMENT

JAY F. WHITACRE, RATNAKUMAR V. BUGGA AND WILLIAM C. WEST

(JPL Docket No. NPO-21015-1-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 ASSIGNORS 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 ASSIGNORS 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 ASSIGNORS 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 ASSIGNORS 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 our hands at PASADENA	CA this day of	of FEBRUARY, 2001.	
Can the Ader For	Paliziam Bugger	William (West	
Jay F. Whitacre	Ratnakumar V. Bugga	William C. West	
State of CALIFORNIA)			
County of LOS ANGELES)		0	
On February 1, 2001 before	ore me, Karen L. McLaughli	n, Notary Public .	
On February 1, 2001 before personally appeared Jay F. Whitacre, Rather	akumar V. Bugga, William C	· West,	
KAREN L. MC LAUGHLIN Commission # 1219784 Notary Public - California Las Angeles County	of satisfactory evidence to be to the within instrument and same in their authorized cap	OR - Proved to me on the basis be the persons whose names are subscribed acknowledged to me that they executed the pacities, and that by their signatures on the the entity upon behalf of which the persons	
My Comm. Expires Jun 4, 2003	WITNESS my hand and off	ficial seal.	
	Karen L. Ms	Laughlin	
(SEAL)		Karen L. Maughlin (Notary Public	

RECORDED: 02/08/2001

PATENT REEL: 011553 FRAME: 0295