Form PTO-1595 (Rev. 03/01) OMB No. 0651-0027 (exp. 5/31/2002) Tab settings ⇒ ⇒ ▼ To the Honorable Commissioner or a second 1017760	U.S. Patent and Trademark Office Docket No. 0632
1. Name of conveying party(ies): Jy-An Wang Kenneth C. Liu Additional name(s) of conveying party(ies) attached? Yes V No	2. Name and address of receiving party(ies) Name: UT-Battelle, LLC Internal Address: Mail Stop 6498
3. Nature of conveyance: Assignment ☐ Merger ☐ Security Agreement ☐ Change of Name ☐ Other	Street Address:
Execution Date: 6/22/01	City: Oak Ridge State: TN Zip:37831 Additional name(s) & address(es) attached? Yes No
A. Patent Application No.(s)	ication, the execution date of the application is:6/22/01 B. Patent No.(s) tached? Yes No
5. Name and address of party to whom correspondence concerning document should be mailed: Name: James M. Spicer Internal Address: Mail Stop 6498	6. Total number of applications and patents involved: 1 7. Total fee (37 CFR 3.41)\$ 40.00 Enclosed Authorized to be charged to deposit account
City: Oak Ridge State: TN Zip:37831	8. Deposit account number: 13-1958 (Attach duplicate copy of this page if paying by deposit account)
DO NOT U	SE THIS SPACE
9. Statement and signature. To the best of my knowledge and belief, the foregoin is a true copy of the original document. James M. Spicer	g information is true and correct and any attached copy Signature Cover sheet, attachments, and documents: With required cover sheet information to: Its & Trademarks, Box Assignments

Mail documents to be reconsects & Trademarks, Box Assignments

Commissioner of Patents & Trademarks, Box Assignments

Washington, D.C. 20231

ASSIGNMENT

WHEREAS, WE, the below-named inventors whose residence and post office are as stated below, have invented certain new and useful improvements in a

Fracture Toughness Determination Using Spiral-Grooved Cylindrical Specimen and Pure Torsional Loading

(hereinafter referred to as "Subject Invention") for which an application for United States Letters Patent was executed by us on even date herewith, and

WHEREAS, UT-BATTELLE, LLC, a limited liability company of the State of Tennessee, having an office at 111-B Union Valley Road, P. O. Box 2008, Oak Ridge, Tennessee 37831-6498, hereinafter referred to as "ASSIGNEE," is desirous of acquiring the entire right, title and interest of the undersigned in the Subject Invention and to any Letters Patent that may be granted therefor in the United States of America and in any and all foreign countries.

NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, we hereby assign to ASSIGNEE our entire right, title and interest in the Subject Invention to all rights of priority thereto pursuant to the International Convention for the Protection of Industrial Property, and in any Letters Patent on the Subject Invention that may be granted in the United States of America and in any and all foreign countries, including any and all Letters Patent that are divisions, reissues, continuations, substitutions or extensions of any Letters Patent or applications therefor on the Subject Invention.

We hereby authorize and request the Commissioner of the United States Patent and Trademark Office and the officials of any and all foreign countries to issue any and all of said Letters Patent, when granted, to the ASSIGNEE.

Further, we hereby agree to communicate to said ASSIGNEE or its representatives any facts known to us respecting said Subject Invention, to testify in any legal proceedings, sign all lawful papers, execute all divisional, continuation, substitution, renewal and reissue applications, to execute all necessary assignment papers to cause any and all of said Letters Patent to be issued to said ASSIGNEE, and to make all rightful oaths and generally do everything possible to aid said ASSIGNEE and its representatives to obtain and enforce proper protection for said Subject Invention in the United States of America and in any and all foreign countries.

We further agree that the terms, covenants and conditions of this assignment shall inure to the benefit of ASSIGNEE, its successors, assigns, and legal representatives, and shall be binding on us, our heirs, legal representatives, and assigns.

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Signature: <u>Jy-Pun Wang</u> Date: 6-22-200/
Residence:
Post Office Address:
State of Tennessee)
County of Anderson)
On this 22 day of, 2001, before me, a Notary Public in and for the County and State aforesaid, appeared JyAn Wang to me personally known to be the same person whose name is subscribed to the foregoing instrument, and acknowledged that he executed said instrument as his free and voluntary act and for the uses and purposes therein expressed.
WITNESS my hand and seal the day and year last above given.
Notary Public
SEAL My Commission Expires: August 16, 2004

Jy-An Wang

Full name of inventor:

RECORDED: 06/25/2001