
Yingtao Jiang
*University of Nevada, Las Vegas, yingtao@egr.unlv.edu*

Bingmei Fu
bmfu@nscee.edu

Woosoon Yim
*University of Nevada, Las Vegas, woosoon.yim@unlv.edu*

Follow this and additional works at: https://digitalscholarship.unlv.edu/hrc_trp_sciences_materials

Part of the *Mechanical Engineering Commons, Nuclear Engineering Commons*, and the *Oil, Gas, and Energy Commons*

Repository Citation
Available at: https://digitalscholarship.unlv.edu/hrc_trp_sciences_materials/95

This Report is brought to you for free and open access by the Transmutation Research Program Projects at Digital Scholarship@UNLV. It has been accepted for inclusion in Transmutation Sciences Materials (TRP) by an authorized administrator of Digital Scholarship@UNLV. For more information, please contact digitalscholarship@unlv.edu.
Quarterly Progress Report  
(May. 01 – July 31, 2003)

Developing A Sensing System for the Measurement of Oxygen Concentration in Liquid Pb-Bi Eutectic

**Principle Investigators:**

Dr. Yingtao Jiang  
Department of Electrical and Computer Engineering  
UNLV  
yingtao@egr.unlv.edu

Dr. Bingmei Fu  
Department of Mechanical Engineering  
UNLV  
bmfu@nscee.edu

Dr. Woosoon Yim  
Department of Mechanical Engineering  
UNLV  
wy@me.unlv.edu
Developing A Sensing System for the Measurement of Oxygen Concentration in Liquid Pb-Bi Eutectic

Introduction

The report for Y01 has been prepared and submitted. The final part of our apparatus, the N3Si4 stirrer, was received by the end of May. The assembly of the apparatus has almost been completed. The control plan for our apparatus has been revised. To run FLUENT, a high-end Unix-based Sun workstation has been acquired. Plan has been made to ship our apparatus to LANL.

Personnel

Principal Investigators:
- Dr. Yingtao Jiang (Electrical and Computer Engineering)
- Dr. Bingmei Fu (Mechanical Engineering)
- Dr. Woosoon Yim (Mechanical Engineering)

Professional
- Dr. Peng Guo (Mechanical Engineering)

Students:
- Mr. Ramkumar Bhavani Sivaraman (Electrical and Computer Engineering)
- Mr. Xiaolong Wu (Electrical and Computer Engineering)

Management Progress

Expenditures incurred during this quarter are within the target amount allocated.

Management Problems

Due to various reasons, we shall not be able to conduct our experiment in campus. So plan has been made to ship the apparatus to LANL, and a couple of students shall be working, with a proper supervision from our LANL collaborators, in LANL. The students have been waiting for their security clearance.

Technical Progress

We have completed most of the assembly work of the apparatus. And it is ready to be shipped to LANL.
We have installed the software FLUENT into the newly acquired SUN server. Some preliminary simulation results on 3-D have been obtained for a simplified model.
An initial draft of a Master thesis has been submitted to the faculty researchers for review.
Technical Difficulties

The 3-D simulation shall be continued with more sophisticated software such as FLUENT.

Plans for the Next Quarter

Experiment shall be performed in LANL on both UNLV and LANL setups.
One student shall defend his M. Sc. thesis some time next quarter.
A replacement to Dr. Peng Guo shall be sought.
One new Ph. D. student shall start his simulation work in Sept.