

TABLE OF CONTENTS
Supplemental Proceedings: Volume I:
Materials Processing and Properties

**Global Innovations in Manufacturing of
Aerospace Materials:
The 11th MPMD Global Innovations
Symposium**

Innovations in Casting Technologies

Experimental and Mathematical Modeling Progress
on Scanning Laser Epitaxy: A Technique for
Growing Single Crystal Superalloys.....235
M. Kirka, R. Bansal, and S. Das

Modeling of Grain Selection during Directional
Solidification of Superalloy Single Crystal Turbine
Blade Casting.....243
D. Pan, Q. Xu, B. Liu, J. Li, H. Yuan, and H. Jin

Prediction of As-Cast Grain Size Distribution from
a Model of Equiaxed Solidification with Free
Dendrite Transport.....249
W. Mirihanage, and D. Browne

Innovations in Additive Manufacturing

Advanced Gas Atomization Processing for Ti and Ti Alloy Powder Manufacturing.....	257
<i>I. Anderson, J. Sears, D. Byrd, J. Rieken, A. Heidloff, M. Glynn, and M. Ward</i>	
Additive Manufacturing of Gamma Titanium Aluminide Parts by Electron Beam Melting.....	267
<i>S. Sabbadini, O. Tassa, P. Gennaro, and U. Ackelid</i>	
Properties of Ti-5Al-5Mo-5V-3Cr Samples Produced via Powder Hot-Isostatic-Pressing.....	275
<i>N. Wain, X. Hao, R. Swamy, and X. Wu</i>	
Fabrication and Characterization of Reticulated, Porous Mesh Arrays and Foams for Aerospace Applications by Additive Manufacturing Using Electron Beam Melting.....	283
<i>S. Gaytan, L. Murr, F. Medina, E. Martinez, L. Martinez, and R. Wicker</i>	

Innovations in Primary and Secondary Forming - Nickel

Flow Behavior of Superalloy 945 During High Temperature Deformation.....	291
<i>S. Coryell, K. Findley, and M. Mataya</i>	

**Innovations in Primary and Secondary Forming -
Titanium**

The Application of Fine Grain Titanium 6Al-4V for
Superplastic Forming and Superplastic Forming and
Diffusion Bonding of Aerospace Products299
L. Hefti

Manufacturing of β -Titanium Ti-10V-2Fe-3Al
Spin-Extruded Hollow Shafts for High Strength
Power Train Applications in Aerospace and
Automotive Industries.....307
C. Machai, and D. Biermann

**Innovations in Primary and Secondary Forming -
Aluminum, Magnesium, and Titanium Aluminides /
Innovations in Machining and Joining**

Study on the Asymmetric Cross Rolling of AZ31
Magnesium Alloy.....315
B. Chen, C. Lu, D. Lin, and X. Zeng

Material Flow Forming the Shoulder Flow Zone
Using Scroll Shoulder Tool during Friction Stir
Welding of Thick Section Aluminum Alloys323
D. Yan, Z. Chen, and G. Littlefair

Author Index867

Subject Index873