

## Mechanical behavior I: fatigue

### **0052 In- and Out-of-Phase Thermomechanical Fatigue of a Ni-Based Single-Crystal Superalloy**

Mikael Segersäll, Johan J. Moverare, Daniel Leidermark, Kjell Simonsson  
Linköping University, Linköping, SE

### **0086 Influence of Phase Angle on Damage Mechanisms and TMF Life on the Polycrystalline Nickel Based Superalloy of RR1000**

Jonathan Jones<sup>1</sup>, Mark Whittaker<sup>1</sup>, Steve Williams<sup>2</sup>, Robert Lancaster<sup>1</sup>  
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### **0105 Thermomechanical Fatigue Crack Growth in a Cast Polycrystalline Superalloy**

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<sup>1</sup>Linköping University, Linköping, SE, <sup>2</sup>University of Oxford

### **0142 Creep-Fatigue Interactions in Equiaxed and Single Crystal Ni Based Superalloys**

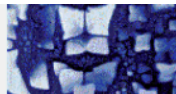
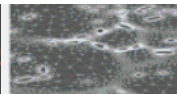
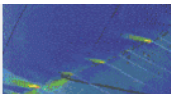
Erica Vacchieri<sup>1</sup>, Alessio Costa<sup>1</sup>, Eleonora Poggio<sup>1</sup>, Stuart Richard Holdsworth<sup>2</sup>  
<sup>1</sup>Ansaldo Energia S.p.A., Genoa, IT, <sup>2</sup>EMPA Swiss Federal Laboratories for Materials Science and Technology, Dübendorf, CH

### **0219 Link between Microstructures and Fatigue Life in Wrought Inconel 718 DA**

Meriem Abikchi<sup>1</sup>, Thomas Billot<sup>3</sup>, Jérôme Crépin<sup>1</sup>, Arnaud Longuet<sup>2</sup>, Caroline Mary<sup>2</sup>, Thilo F. Morgeneyer<sup>1</sup>, Loïc Nazé<sup>1</sup>  
<sup>1</sup>CdM Mines ParisTech, Evry, FR, <sup>2</sup>Snecma-SAFRAN Group, Moissy-Cramayel, FR, <sup>3</sup>Snecma-SAFRAN Group, Colombes, FR

### **0041 Quantitative analysis of Portevin -Le Chatelier effect in Inconel 718 at elevated temperatures**

Jaroslav Mizera, Warsaw University of technology, Warsaw



## Mechanical behavior II: Single-crystalline alloys

### **0014 Development and Use of a New Burner Rig Facility to Mimic Service Loading Conditions of Ni-Based Single Crystal Superalloys**

Florent Maugé<sup>1</sup>, Damien Marchand<sup>1</sup>, Médéric Morisset<sup>1</sup>, Denis Bertheau<sup>1</sup>, Jonathan Cormier<sup>1</sup>, José Mendez<sup>1</sup>, Zéline Hervier<sup>2</sup>, Elisabeth Ostojka-Kuczynski<sup>2</sup>  
<sup>1</sup>Institut Pprime, Chasseneuil, FR, <sup>2</sup>SAFRAN - Turbomeca, Bordes, FR

### **0033 Evolution of Strain Distribution and Fracture in Single Crystal CMSX-4 Superalloy studied by X-ray Diffraction Methods**

Jacek Krawczyk, Robert Albrecht, Włodzimierz Bogdanowicz  
University of Silesia, Chorzów, PL

### **0069 Nanoindentation Testing of the $\gamma/\gamma'$ and TCP Phase in the Interdendritic Region and Dendrite Core of a Nickel Based Superalloy.**

Hamad ur Rehman<sup>1</sup>, Karsten Durst<sup>3</sup>, Gunther Eggeler<sup>2</sup>, Mathias Göken<sup>1</sup>  
<sup>1</sup>University of Erlangen-Nürnberg, Erlangen, DE, <sup>2</sup>Ruhr-Universität Bochum, Bochum, DE, <sup>3</sup>TU Darmstadt, Darmstadt, DE

### **0073 Influence of Secondary $\gamma'$ Phase on the Creep Behavior of Single Crystals Superalloy at Intermediate Temperature**

Jian Yu, Jiarong Li, Jinqian Zhao, Shizhong Liu, Mei Han, Zhenxue Shi  
Beijing Institute of Aeronautical Materials, Beijing, CN

### **0100 How Stress/Temperature Regimes and Crystallographic Loading Directions Affect the Creep Parameters of ERBO1**

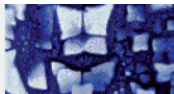
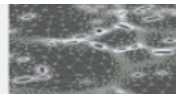
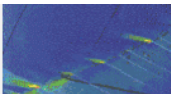
Philip Wollgramm, Hinrich Buck, Klaus Neuking, Gunther Eggeler  
Ruhr-Universität Bochum, Bochum, DE

### **0159 Creep Deformation Behavior of Rhenium Free Ni-Based Single Crystal Superalloys LSC-15**

Nobuyasu Tsuno, Satoshi Takahashi  
IHI corporation, Yokohama, JP

### **0193 Creep Properties of a New Re Free Single Crystal Ni-based Superalloy, NKH71**

Yoshihiro Kondo<sup>1</sup>, Yuusuke Kubo<sup>1</sup>, Nobuhiro Miura<sup>1</sup>, Yoshinori Murata<sup>2</sup>, Akira Yoshinari<sup>3</sup>  
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## Mechanical behavior III: Polycrystalline alloys

### **0004 Evaluation of Microstructural and Mechanical Properties of H-282 Superalloy with Application in Land-Based Turbines and Aircraft Jet-Engines**

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### **0013 Impact of Microstructural Evolutions during Thermal Aging of Alloy 625 on its Static Mechanical Properties**

Lorena Mataveli Suave<sup>1</sup>, Denis Bertheau<sup>1</sup>, Jonathan Cormier<sup>1</sup>, Patrick Villechaise<sup>1</sup>, Aurélie Soula<sup>2</sup>, Zéline Hervier<sup>3</sup>, Johanne Laigo<sup>4</sup>

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### **0129 The influence of Heat Treatment Parameters on the Microstructure and Mechanical Properties of a Powder Metallurgy Nickel-Base Superalloy**

Gaofeng Tian, Jinwen Zou, Guojun Ma

Beijing Institute Aeronautical Materials, Beijing, CN

### **0167 Influence of the Quenching Drasticity and Cooling Interruption Temperature on Microstructure and Tensile Properties of the Nickel-Based Superalloy Udimet®720.**

Paul Le Baillif<sup>1</sup>, Rémi Lacoste<sup>1</sup>, Pascal Lamesle<sup>1</sup>, Denis Delagnes<sup>1</sup>, Christian Dumont<sup>2</sup>, Farhad Rezai-Aria<sup>1</sup>

<sup>1</sup>Université de Toulouse, Albi, FR, <sup>2</sup>Aubert & Duval, Les Ancizes, FR

### **0190 Studying the Influence of Substitutional Elements on Mechanical Behaviour of Alloy 718**

Bertrand Max<sup>1</sup>, José San Juan<sup>2</sup>, Maria No<sup>2</sup>, Jean-Marc Cloue<sup>1</sup>, Bernard Viguier<sup>1</sup>, Eric Andrieu<sup>1</sup>

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### **0198 Mechanical Properties and Microstructure of Large IN713LC Nickel Superalloy Castings**

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