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Among items appearing in this issue:

Iridium Intermetallic Compounds for Ultra High-Temperature Structural Applications
Yoshihiro Terada (Department of Materials, Physics and Energy Engineering, Nagoya University, Japan) measured thermal conductivity and thermal expansion for the intermetallic compounds Ir_3X (X = Ti, Zr, Hf, V, Nb or Ta) in the temperature range 300 to 1100 K. The thermal conductivities are between 41 and 99 W m^{-1} K^{-1} at 300 K, while the difference of thermal conductivities becomes less emphasised at higher temperatures. The coefficient of thermal expansion (CTE) values are insensitive to temperature, and fall around 8×10^{-6} K^{-1} at 800 K. The Ir_3X with X = Ti, Zr, Hf, Nb or Ta are suitable for ultra high-temperature structural applications due to their higher thermal conductivities and smaller CTE values.

Platinum Group Metal Complexes with Tertiary Phosphines
Tertiary phosphines are a large class of ligands commonly used in platinum group metal (pgm) coordination chemistry, in areas ranging from homogeneous catalysis to selective metal extraction chemistry and to therapeutic applications. In this article, Martin Smith (Department of Chemistry, Loughborough University, U.K.) reviews pgm-containing complexes of new functionalised tertiary phosphines. These phosphines have been used in supramolecular chemistry and for constructing novel hexanuclear pgm complexes, as ligands for bridging homo- and heterobimetallic late transition metals, and in catalysis.

PGMs Retain Fundamental Role in Catalysis
Emma Schofield, Nadia Acerbi and Cristian Spadoni (Johnson Matthey Technology Centre, Sonning Common, U.K.) attended EuropaCat VIII: “From Theory to Industrial Practice” from 26th to 31st August 2007, in Turku, Finland. Presentations covered diverse topic areas, including automotive catalysis, fuel cells and photocatalysis. It was clear that pgms retain their fundamental role in many branches of catalysis and, despite or perhaps as a result of all efforts at substitution and thrifting, will continue to be the focus of considerable catalyst research activity for the foreseeable future.

PGM Catalysis for Renewable Feedstocks and Fuels
John Birtill (Consultant in catalyst technology, U.K.) reviews the book “Catalysis for Renewables: From Feedstock to Energy Production”, edited by Gabriele Centi and Rutger van Santen. The drive for renewable feedstocks and fuels is a hot topic for scientists and governments, and catalysis is a key enabling technology for the development of new and improved processes. The book includes coverage of supported and/or bifunctional pgm catalysts, for example in hydrogenation, hydrogenolysis, dehydrogenation, oxidation, homogeneous telomerisation, steam reforming, aqueous reforming and electrocatalysis.

New Uses for PGMs from the Patent Literature
The patent literature contains a wealth of detailed information about existing and new uses for the pgms. Richard Seymour (Johnson Matthey Technology Centre, Sonning Common, U.K.) carried out an exercise to map the archive of patent literature relating to the pgms from 1983, and identified important trends relating to potential new applications. This paper summarises the results and shows that one such ‘hot spot’ relates to organic light emitting diodes (OLEDs) containing iridium-based phosphorescent dopants.

High-Temperature Behaviour of PGM Materials
Johannes Preußner, Rainer Völkl and Uwe Glatzel (Metals and Alloys, University Bayreuth, Germany) present a review of the 11th International Conference on Creep and Fracture of Engineering Materials and Structures (Creep 2008), held from 4th to 9th May 2008 close to Bayreuth, Germany. Highlights include presentations on the modelling and simulation of creep deformation and development of new high-temperature pgm materials.

Platinum Catalysis in the Silicone Release Liner Industry
Andrew Holwell (Johnson Matthey Precious Metals Marketing, Royston, U.K.) attended Global Release Liner Industry Conference 2008 from 6th to 8th February 2008, in Amsterdam, The Netherlands. The conference focused on platinum usage in silicone curing applications and potential opportunities for reducing the amount of platinum used. These include advanced silicone monomers and crosslinkers to reduce the amount of platinum hydrosilylation catalyst (such as Karstedt's catalyst) required, or the use of alternative curing technologies.

The History of the Periodic Table
The book "The Periodic Table: Its Story and Its Significance" by Eric Scerri describes developments in the Periodic Table, explains what led to them, comments on them and discusses their implications. Michael Laing (Professor Emeritus, University of KwaZulu-Natal, South Africa) reviews the book, pointing out that Mendeleev in 1869 specifically quoted the similar atomic weights of platinum, iridium and osmium as being an important foundation of his periodic system.

A Tribute to John Ward Jenkins
John Jenkins died on the 28th May 2008. Stan Golunski (Johnson Matthey Technology Centre, Sonning Common, U.K.) and John's former colleagues remember his many achievements, including the technique of temperature-programmed reduction (TPR) of catalysts. Latterly, John Jenkins' name was invariably associated with the HotSpot™ reactor, which he had invented in the late 1980s. The reformer can be used to generate H_2 from hydrocarbon fuels and oxygenates in the presence of a pgm-containing catalyst, and may yet prove to be a key technology in a future hydrogen economy.

Abstracts and New Patents
A selection of abstracts from the recent scientific and patent literature is presented.

Annual Indexes for Volume 52
This issue includes the Name and Subject indexes for Volume 52. The Name Index contains the names of the authors and reviewers for the journal contents, together with speakers at the reviewed conferences. The Subject Index contains detailed, fully cross-referenced entries for the principal topics covered during the year 2008. The pgm-containing catalysts, alloys, compounds and complexes mentioned in Volume 52 are listed.

Contact
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