Hiden Isochema Advancing Sorption Analysis

Newsletter • Spring 2014



Hydrogen: Hiden Isochema to co-host the MH2014 Summer School

From 17th to 20th July 2014 Hiden Isochema and Salford University are set to co-host an experimental summer school on the characterisation of hydrogen-material interactions.

The summer school will precede the main conference at the 14th International Symposium on Metal-Hydrogen Systems. The Metal-Hydrogen Symposium series is the premier international forum for metal hydride and hydrogen-material interaction researchers and attracts attendees from around the world.

The MH2014 Summer School will be aimed at graduate students and other young researchers who are new to the study of hydrogen-material interactions. It is intended to provide an overview of the main techniques used to study metal-hydrogen interactions and will be suitable for those involved in both fundamental and applied research. The programme will include two days at Salford University buildings located at MediaCity UK (pictured above). The programme of lectures here includes various experimental techniques for the analysis of the interaction

of hydrogen with both metal hydrides and porous materials.

There will also be a day spent at the headquarters of Hiden Isochema in Warrington, during which there will be practical hands-on sessions on measuring hydrogen uptake using both gravimetric and manometric techniques.



The summer school will be supported in part by the COST Action MP1103 (Nanostructured

Materials for Solid-State Storage). COST is an intergovernmental framework for European Cooperation in Science and Technology, allowing the coordination of nationally-funded research on a European level. COST does not fund research itself, but provides support for networking activities carried out within COST Actions. COST will be supporting a number of scholarships to enable students from its 35 member countries to attend the summer school.

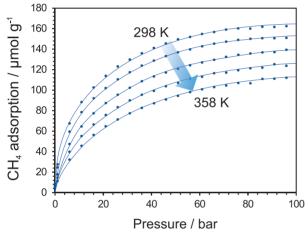
To register and for more details visit the conference website www.mh2014.co.uk



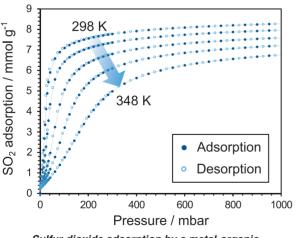
XEMIS Microbalance: Application Data

Our new **XEMIS** microbalance continues to attract great interest from both new and existing customers, who are excited by features of the **XEMIS** and its ability to provide high accuracy sorption measurements even on small sample sizes at high pressures and with corrosive species.

The application data clearly demonstrates the capabilities of the **XEMIS** under these challenging conditions. The methane adsorption data for shale demonstrates the performance of **XEMIS** under high pressures. Shales typically exhibit low uptakes, making this measurement type experimentally demanding, so the high quality of these isotherms is particularly notable.

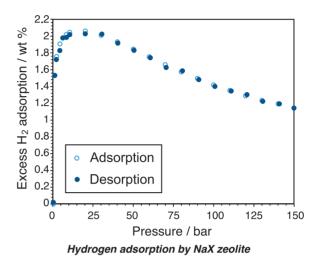


Methane adsorption by a shale



Sulfur dioxide adsorption by a metal-organic framework (NOTT-300), with kind permission from University of Nottingham, UK

New data is being produced continually in our Applications Laboratory. The following plot shows hydrogen adsorption/desorption isotherms on Na-X zeolite, measured up to 150 bar at 77 K. The excess adsorption can be seen to peak a few tens of bars, before decreasing as the pressure increases further.



New photographs of the **XEMIS** also allow us to show you in more detail the microbalance mechanism, which features exosensing technology and includes all-metal construction, high magnetic permeability shielding and a precision engineered balance beam.



For more information and a quotation, please contact us now.



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