

Abstract Submitted  
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**Development of a Portable Automated Gas Environment System (PAGES2)** NATHAN CAMPBELL, JACOB BAXLEY, EDWARD KINTZEL, Western Kentucky University, BRUCE HILL, LOUIS SANTODONATO, KENNETH HERWIG, Oak Ridge National Laboratory — For the user community at the Spallation Neutron Source (SNS), a portable automated gas environment system (PAGES2), capable of remote operation at pressures up to 100 bar has been built and programmed. The function of this system will be to characterize a variety of high surface area materials and allow studies of energy significant gases such as methane on these surfaces to be carried out. Understanding the fundamental physics of interaction at the gas-surface interface is key for the generation of application-minded products such as fuel cells. PAGES2 can generate adsorption isotherms to determine surface area of the material as well as the number of gas molecules required for a specific surface coverage. This system will not only produce new science, but also allow for better experimental design. PAGES2 system testing is currently underway, and initial results indicate the system is operating as designed. Future tests will be done prior to use at the SNS.

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