Abstract Submitted
for the MAR10 Meeting of
The American Physical Society

Isotopic Fingerprints of four and five-atom Pt luminescence centers in ^{28}Si MICHAEL STEGER, ALBION YANG, TAKEHARU SEKIGUCHI, KAMYAR SAEEDI, M.L.W. THEWALT, Simon Fraser University, M.O. HENRY, K. JOHNSTON, H. RIEMANN, N.V. ABROSIMOV, P. BECKER, H.-J. POHL — We have recently demonstrated that observing 'isotopic fingerprints' in ^{28}Si leads to many surprises regarding the actual constituents of supposedly well known deep luminescence centers. A series of four and five-atom complexes containing Cu, Ag, Au and Li were found. We now extend this by observing Pt containing centers in ^{28}Si. The two previously observed Pt-related centers, with luminescence at 884 and 777 meV, are found to contain three and four Cu atoms, respectively, in addition to a single Pt atom. With the addition of Li to these Pt implanted samples we report on a series of four and five-atom complexes containing Cu, Pt and Li, similar to those found for Cu, Au and Li before. This further demonstrates the ubiquity of four- and five-atom luminescence centers in Si.

Michael Steger
Simon Fraser University

Date submitted: 29 Dec 2009 Electronic form version 1.4