Analyzing Spatially Resolved Z-pinch Spectra to Determine
the Nature of “Bright Spots”* J.P. APRUZESE, J.L. GIULIANI, J.W.
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COVERDALE, Sandia National Laboratories — Wire array Z-pinch implosions
which access the K-shell stages of their load elements are usually characterized by
spatially nonuniform emission. But, is the existence of the “bright spots” due to
density enhancement, higher temperature, or some combination of the two? Does
the answer vary with atomic number of the load? To investigate this issue we have
analyzed spatially resolved spectra from Cu and Al pinches driven by the Z gen-
erator. Correlation studies and regression analyses from the derived conditions are
employed in order to infer the cause(s) of the local enhancements of K-shell powers.

*Work supported by U. S. Department of Energy, National Nuclear Security Ad-
ministration. Sandia National Laboratories is a multi-program laboratory managed
and operated by Sandia Corporation, a wholly owned subsidiary of Lockheed Martin
Corporation, for the U.S. DOE’s NNSA under contract DE-AC04-94AL85000. JPA
is a consultant to NRL through L3 Communications, Chantilly, VA 20151

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Date submitted: 13 Jul 2011 Electronic form version 1.4