

Abstract Submitted
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Theory and Detection of Highly Multiplying Fission Chains

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Lawrence Livermore Natl Lab — LLNL has been making significant advances to the
field of neutron multiplicity theory and experiments for several decades. Recently
the statistical theory of fission chains with respect to neutron count distributions
was brought into analytical form after three decades. We use this analytical form
in our analysis of multiplying systems. I will discuss recent work designed to test
our ability to deal with highly multiplying fissioning systems ($M > 5$). I will further
discuss the current detector we have developed, and analysis tools used, to passively
analyze these systems with both fast and thermal neutron detector arrays.

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