

Abstract Submitted
for the DPP20 Meeting of
The American Physical Society

Background measurement methods for opacity experiments conducted at the Z facility¹ GREG DUNHAM, TAISUKE NAGAYAMA, JAMES BAILEY, GUILLAUME LOISEL, Sandia National Laboratories — Laboratory experiments typically test opacity models by volumetrically heating a sample with x-rays and measuring spectrally-resolved transmission by viewing a bright backlighter through the sample with a spectrometer. A potential problem is that any background signal contaminating the spectrum will cause the inferred opacity to be too low. Backgrounds can arise from many sources, including sample self-emission, emission from nearby unresolved plasmas, high-order crystal reflections, high energy x-rays, or instrument fluorescence. Methods developed to measure background signals in opacity experiments at the Sandia Z facility are discussed.

¹++ Sandia National Laboratories is a multi-mission laboratory managed and operated by National Technology and Engineering Solutions of Sandia, LLC., a wholly owned subsidiary of Honeywell International, Inc., for the U.S. Department of Energy's National Nuclear Security Administration under contract DE-NA0003525.

Greg Dunham
Sandia National Laboratories

Date submitted: 29 Jun 2020

Electronic form version 1.4