Abstract Submitted
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Effect of random noise on a bio-optical imaging scheme[1] BRANDON GRAYBEAL, ROBERT WAGNER, QICHANG SU, RAINER GROBE, Illinois State University — Simulations for detecting objects inside of biological materials by using laser light are presented. Our method uses the weighted shadow patterns of objects at fixed locations to "mask" one section of the detection region, so that objects in the unmasked region can be located by scanning through various locations and minimizing χ^2. It is shown that when random noise is introduced, the method is very robust when only a single object is present in the medium but that detection of multiple objects can be very sensitive to noise.

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