

Resolution Enhancement of the Scanning Laser Acoustic Microscope by Tilting the Sample and Acoustic Stage

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We review a variant for the optical method of detection (proposed in 2003) for the currently in use scanning laser acoustic microscope (SLAM). The proposed method consists in tilting the stage that contains the immersed object under test and the coverslip with respect to the direction of the illuminating optical probe beam. We present a mathematical analysis of the optical process of detection. Additionally, we include computer simulations to show that the lateral resolution in the optical detection process can be improved by using our method.