

## Optical Coherence Tomography Characterization of Balloon Diameter and Wall Thickness

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An intravascular optical coherence tomography probe is integrated in a computerized angioplasty balloon deployment system. The resulting setup can be useful in many applications. In this paper, based on the acquired intraluminal images, we achieve a detailed assessment of the diameter and wall thickness of the inflated balloon at different pressures. Such analysis is helpful in testing the balloon quality, in assessing deformation model, or in validating new balloon designs.

## In-Vitro Tests of a Rapid, Stable-Temperature Recharging System for Implantable Batteries

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In this paper, the authors report in-vitro tests of an ultrasound system and method of wirelessly transmitting significant amounts of energy into the human body for the purpose of recharging implantable batteries. We demonstrate the complete charging of Li-ion batteries with energy capacities of 35 mA h, 200 mA h, and

600 mA h through several types of animal tissue while keeping the temperature rise of the tissue and piezoelectric receiver below the desired 2°C human safety limit recommended by FDA medical device guidelines. Given these encouraging results, it is logical to conclude that the rapidly growing neurostimulator market is a desirable and appropriate target for introduction of this novel recharging method.

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