

# **Abstract**

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## **Investigation of Tear Flared Tipped Antenna for Therapeutic Microwave Ablation**

Tear Flared Tipped structure is proposed for microwave ablation therapy. Numerical simulations using ANSOFT High Frequency Structural Simulator is introduced to optimize the antenna design. The proposed design is modelled in saline and liver tissues. With the advantage of ultra-wide bandwidth feature, the proposed antenna alleviates the high mismatch losses encountered with traditional narrow bandwidth designs recording more than -30 dB return loss over entire bandwidth with nearly spherical radiation. Results for return loss, VSWR, radiation pattern and SAR are presented.