

Abstract Submitted
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Raman Spectroscopy Studies of Normal and Burned Biological Tissue FARANAK ZARNANI, Department of Physics, University of Texas at Dallas, Richardson, TX 75080, DAVID MAASS, AHAMED IDRIS, Department of Surgery, University of Texas Southwestern Medical Center, Dallas, TX 75390, ROBERT GLOSSER, Department of Physics, University of Texas at Dallas, Richardson, TX 75080 — Burn injuries are a significant medical problem, and need to be treated quickly and precisely. Burned skin needs to be removed early, within hours (less than 24 hrs) of injury, when the margins of the burn are still hard to define. Studies show that treating and excising burn wounds soon after the injury prevents the wound from becoming deeper, reduces the release of proinflammatory mediators, and reduces or prevents the systemic inflammatory reaction syndrome. Also, removing burned skin prepares the affected region for skin grafting. Raman spectroscopy could be used as an objective diagnostic method that will assist burn surgeons in removing burned skin precisely. As a first step in developing a diagnostic tool, we present Raman spectroscopy information from normal and burned ex vivo rat skin, and a comparison of our findings. Raman spectroscopy is explored for its specificity and sensitivity.

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