

VII Leopoldo García-Colín Mexican Meeting on Mathematical and Experimental Physics



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JOSÉ MORALES: Commercial aluminum foil as a substrate for Surface-Enhanced Raman Spectroscopy: A study via atomic force microscopy (AFM) and scanning electron microscopy (SEM).

Monday, 17 February 2020 18:30 (15 minutes)

Three commercial brands of aluminum foil available in Mexico (Reinolds, Avilés, Great Value) are studied. In this work, we have obtained experimental results, which demonstrate that commercial aluminum foil enhances the Raman signal. The Raman signal enhancement of methylene blue at a concentration of 1×10^{-6} M has been analyzed by placing a drop (6 μ l) onto samples of the three commercial brands of aluminum foil and the reference. Preliminary results show that Raman enhancement has been observed in the Great Value samples. Microchannels on the surface of the three commercial brands of aluminum foil have been observed via SEM and AFM; their origin is possibly due to the aluminum foil manufacturing process. We hypothesize that these microchannels give rise to the Raman enhancement of methylene blue.

Session Classification: SHORT TALKS

Track Classification: SYMPOSIUM ON LASER ABLATION