

Letters

Digging Deeper

I enjoyed the overview of the use of NIR in the agricultural industry ("Spectroscopy Down on the Farm", October, p 22), but there were some omissions that I consider important. First of all, Dr. Karl Norris, formerly of the USDA, was not mentioned and he is often referred to as the father of modern NIR—for very good reasons, I might add. Dr. Norris received the first NIR Award from Eastern Analytical Symposium, probably the top NIR conference in the United States. As far as the instrumentation was concerned, no mention was made about fixing the "x-axis" stability problem that showed up with all of the instruments that I tested when I was with Amoco. The fact that the x-axis changed over a period of a few days made the instruments unusable for us. Very good models could be built in the laboratory [but they] failed miserably in the field. The ability to control the x-axis led to the development of the temperature control diode array instrument, the PIONIR 1024, and the use of FT instruments in the petroleum world.

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Light Reading

The feature "A Study in Infrared" (October, p 27) stated that FTIR spectroscopy relies on identifying the unique absorption patterns of "laser-produced IR radiation". In fact, FTIR spectrometers use a broadband light source to cover all frequencies of the IR spectra. A common source for conventional FTIR spectrometers is a globar, which is essentially a black body radiator like the heating element on an electric stove. Lasers have a characteristic very narrow band—almost single frequency—output, which makes lasers unsuitable as a conventional FTIR source. The small HeNe laser found in most FTIR spectrometers is used to measure the position of the moving mirror of the Michelson interferometer. Also, I'm not sure what you were referring to when mentioning the "powerful new laser system" at the Advanced Light Source (ALS). Like the National Synchrotron Light Source (NSLS) and Brookhaven National Lab, the ALS uses

the IR portion of synchrotron radiation as an extremely bright source for FTIR spectrometers and microspectrometers. Although the divergence of this IR beam is low, it is spectrally a broad source with no lasing involved and therefore not considered a laser. I would also like to add that both ALS and NSLS are user facilities funded by the DOE, and those interested in becoming users should contact ALS (www.lbl.gov) or NSLS (www.bnl.gov).

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Author's Reply:

It was indeed incorrect to refer to "laser-produced IR radiation" for the reasons you discuss. The laser light is used as a referencing system for the FTIR, and it should have read "laser-referenced IR radiation". As for the "powerful new laser system" referred to—this information came from a University of California–Berkeley wire story entitled "UC–Berkeley lab scientists fight crime with lasers" (www.spectroscopynow.com/Spy/basehtml/SpyH/1,1181,0-1-1-0-1532-news_detail-0-1532,00.html).

Mark S. Lesney

The Writing Life

While there may be considerable debate about the advisability of writing papers for publication in an industrial environment (Workplace Perspectives, October, p 43), the most important reason for doing so is the personal satisfaction to the writer not only in his or her present and future positions but also after retirement. The writing skills learned and practiced during a professional career can be translated into either part-time employment or a hobby after formal retirement. Many chemists approach writing with some dread because of their background in experimental work; however, a healthy dose of writing experience soon overcomes this reluctance. Although I am certainly not an average example, my life has been enriched in retirement by writing nearly 6000 letters, with a number published.

Nelson Marans

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