From: "Bowler, MA (Marion)" <m.a.bowler@dl.ac.uk>
Subject: RE: Some questions concerning "Theoretical and measured performance of diffraction gratings"
Date: 6 January, 2006 4:56:07 AM CST
To: Mark Boots <mark.boots@usask.ca>

Dear Mark,
I am sorry we forgot to put the angles in the paper. The 390 lines/mm and 1440 lines/mm gratings were destined for beamline 5D on the SRS and the results are for a constant included angle of 160 degrees. The other 2 gratings (300 and 600 lines/mm) are on a different beamline (MPW6.1) and the results are for an included angle of 167 degrees.

We use an IDL wrapper for the Neviere code, but I shall certainly have a look at your web one.
With best wishes, MArion

-----Original Message-----
From: Mark Boots [mailto:mark.boots@usask.ca]
Sent: 05 January 2006 23:06
To: m.bowler@dl.ac.uk
Subject: Some questions concerning "Theoretical and measured performance of diffraction gratings"

Hello,

My name is Mark Boots; I'm a student at the University of Saskatchewan working in the Materials Research Group (beamteam.usask.ca) of Dr. Alex Moewes. We are currently designing an x-ray emission spectrometer for a new beamline at the Canadian Light Source, and I've being doing some work in modelling the efficiency of diffraction gratings.

I came across your paper ("Theoretical and measured performance of diffraction gratings" -- Nucl. Instr. & Meth. A) and I was quite happy to see that I could fit my theoretical calculations quite closely with your experimental results. I wasn't able to find out at which angles of incidence you measured your gratings from the paper; my best guesses (ie: the tightest fit) are below:

Blazed 1440/mm: 83 degrees
Lamellar 600/mm: 80 degrees
Trapezoidal 300/mm: 79 degrees
Trapezoidal 390/mm: 85 degrees

I was just wondering if you could confirm the actual incidence angles that you measured the diffraction efficiency under, as a check on my calculations.

I've started programming a nifty little web interface to the Gradif code that you might be interested in looking at. Our calculation server is pretty busy right now, and some of the features aren't finished yet, but you should be able to get an idea of how it works.

http://beamteam.usask.ca/Nephiere/

Best Regards,

Mark.

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