The SPUR Code

Jim Clarke

on behalf of Nick Ryder & Duncan Scott,

ASTeC,

Daresbury Laboratory

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What is it?

- SPUR is a code written by Sven Reiche (UCLA)
- We have added to it to increase its' usefulness

- It is especially written to handle long strings of undulators
  - ➔ Uses parallel architecture
  - ➔ Uses HDF files as very efficient for storing large volumes of data

- Can handle planar or helical
- Ideal or measured fields

Benchmarking

- Checked against SPECTRA, & found to be much quicker

Table 1. SPUR and SPECTRA calculation times.

	SPUR		SPECTRA	
Calculation	Time	nodes	Accuracy level	Time
Fieldmap	4 hr	45	1	68 hr
2m Planar	10 min	30	1	2 hr
2m Planar Higher accuracy	45 min	30	2	49 hr
100m Planar	2 hr	30	1	>1 week

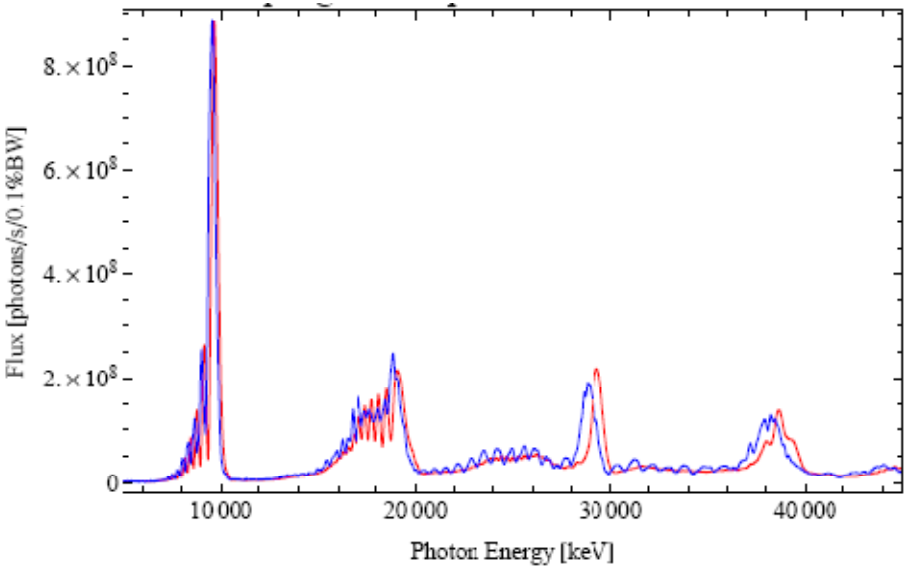

Figure 3. Comparison of SPECTRA (red) and SPUR (blue) spectra from a user defined fieldmap into an aperture.

- All details of code can be found in EPAC 08 paper, WEPC128