

Astra Operational Statistics

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A total of 7 experiments were carried out with the Astra laser during the reporting period April 2004 to April 2005. All 7 experiments were supported by the UK research councils and these used 41 experiment weeks including 6 set-up weeks designed to enable experimenters to prepare equipment before they receive laser beam-time. The experimental schedule is shown below in Figure 1.

The availability of the Astra laser was 80% in normal hours of service during scheduled experiment time. The laser downtime was made up with additional time outside normal scheduled

operating hours. This made the overall time available to users 127% of the normal operating hours. The laser’s reliability over all operating hours was 91% taking into account all recorded downtime.

We had the opportunity to carry out 23 weeks of facility development this year, much of which is described in detail elsewhere in this report. Developments included: contrast enhancement using gating techniques and the installation of hollow-fibre, capillary compression to provide pulses of 10 fs in TA1.

Table 1. Astra Experiment Schedule 2003/2004.

Date	Target Area 1 (TA1)	Target Area 2 (TA2)
29-Mar-04	Facility Delevopment	Krushelnic
05-Apr-04		Electron Acceleration
12-Apr-04		Strathclyde
19-Apr-04		Set up
26-Apr-04		Riley
03-May-04		X-Ray Sources
10-May-04	Set up	QUB
17-May-04	Newell/Williams	Facility Delevopment
24-May-04	Laser Interactions with ions	
31-May-04	UCL/QUB	
07-Jun-04	Set up	
14 June - 2 Aug 04	Woolsey	
09-Aug-04	High Field Atomic Physics	
16-Aug-04	York	Facility Delevopment
23-Aug-04	Set up	
30-Aug-04	Set up	
06-Sep-04	Newell/Williams	
13-Sep-04	Laser Interactions with ions	
20 Sep - 1 Nov 04	UCL/QUB	
08-Nov-04	Set up	Jaroszynski
15-Nov-04	Newell/Williams	Electron Acceleration
22-Nov-04	Laser Interactions with ions	Strathclyde
29-Nov-04	UCL/QUB	CHRISTMAS
06-Dec-04	Set up	
13-Dec-04	Facility Delevopment	
20-Dec-04	Set up	
27-Dec-04	Facility Delevopment	
03-Jan-05	Set up	
10-Jan-05	Zepf	
17-Jan-05	High Harmonics	
24-Jan-05	QUB	
31-Jan-05	Facility Delevopment	
07-Feb-05	Facility Delevopment	
14-Feb-05	Facility Delevopment	
21 Feb - 14 Mar 05	Facility Delevopment	
21-Mar-05	Facility Delevopment	
28-Mar-05	Facility Delevopment	Zepf