

Astra Operational Statistics 06/07

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A total of 8 experiments were delivered to the user community from the Astra laser facility in the reporting year April 06 – April 07. In total 41 experimental weeks were delivered to Target Area 1 and 2, including 6 weeks of set up. To further facilitate the Gemini upgrade and Artemis independence 20 weeks of system access was available to laser staff during the year. The Target Area 1 laser availability in normal working hours for the year was 91%, with overall availability, which including downtime made up outside of normal working hours, was 130%. The laser reliability was 92%. Target Area 2 availability in normal working hours was 79%, with overall availability 148%. The Target Area 2 laser reliability was 89%.

System developments were made during the year in order to improve the performance of the laser system. The Piezo driven automated alignment system implemented on the input stages of the first amplifier in the previous reporting year were further rolled out to cover the first and 2nd amplifier. Carrier Envelope Phase stabilization was implemented on the Femtopower front end. The diffraction gratings were replaced in the Target Area 2 compressor which resulted in a compressor throughput efficiency of greater than 60%. There has been considerable installation of hardware associated with the Gemini upgrade which is detailed elsewhere in this report.

Table 1. Astra experimental schedule 2006/07

3 - 9 April		J. P. Marangos ICET
10 - 16 April	Amplifier 1 and 2 Automated Alignment Installation	
17 - 23 April		
24 - 30 April		Set-Up Week
1 - 7 May	Z. Najmudin All-Optical Injection	Newell / Williams
8 - 14 May		Vibrational Population Control
15 - 21 May	UK	ICET
22 - 28 May		
29 May - 4 June		Changeover
5 - 11 June	Changeover	
12 - 18 June	Set-Up Week	Set-Up Week
19 - 25 June		
26 June - 2 July		Greenwood / Williams
3 - 9 July	Alpha X PF & (MS)	Trapped Molecule Ions
10 - 16 July		ICET
17 - 23 July		
24 - 30 July		
31 July - 6 August	UK	
7 - 13 August		Changeover
14 - 20 August	K. Krushelnick PF & (MS)	Set-Up Week
21 - 27 August		
28 August - 3 September	UK	A1 06-07 P2
4 - 10 September		K. Ledingham
11 - 17 September	Changeover	Molecular Fragmentation
18 - 24 September	Set-Up Week	ICET
25 September - 1 October		
2 - 8 October		Astra Laser
9 - 15 October	G. Tallents MS & (PF)	Characterisation
16 - 22 October		
23 - 29 October	UK	Laboratory
30 October - 5 November		Decommissioning
6 - 12 November		
13 - 19 November	Dual Probe Layout Changes	
20 - 26 November		
27 November - 3 December		Artemis Building
4 - 10 December		
11 - 17 December	TA2 Diagnostics Rebuild	
18 - 24 December		
25 - 31 December	Christmas and New Year	Christmas and New Year
1 - 7 January		
8 - 14 January		
15 - 21 January		Laboratory
22 - 28 January		Decommissioning
29 January - 4 February	Gemini Commissioning	
5 - 11 February		Set-Up Week
12 - 18 February		
19 - 25 February		Newell / Williams
26 February - 4 March	Commissioning	Rotation and Vibration of Wavepackets
5 - 11 March	Changeover	UK
12 - 18 March	Set-Up Week	ICET/SB
19 - 25 March		A6P2/06
26 March - 1 April	D. Neely	Changeover
		Set-Up Week