

Radiation Effects Facility

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The activity of the Radiation Effects Facility (REF) increased over the previous reporting year. In this reporting period, the facility was used for 2,314 hours, which is a ~15% increase over the 2,012 hours used in the 2004-2005 reporting period. Users of the facility (and hours used) over the past year were: NASA GSFC (332.75), Boeing Satellite Systems (317.25), NAVSEA (299.5), NASA JPL (240.75), Aeroflex (167.75), Xilinx (156.25), International Rectifier (143.75), Lockheed Martin (130), BAE Systems (75), Prairie View A&M University (59), ATK-Mission Research Corp. (45), General Dynamics (44.75), Sandia National Lab (44), Raytheon (43.5), Maxwell Technologies (37.5), Peregrine Semiconductor (30), TRAD (28.25), Northrop Grumman (26), NASA JSC (24), Harris (20), Honeywell (18.25), Sun Tronics (15.75) and Boeing Seattle (15). Peregrine Semiconductor, TRAD and Sun Tronics were new customers of the facility.

Table I compares the facility usage by commercial and government customers. The ratio from this reporting year (57% to 43%) is similar to the trend seen in previous reporting periods and commercial hours still dominate. However while the number of commercial hours remained about the same, the number of government hours increased by ~400 hours or 69% over 2004-2005. Much of the testing conducted at the facility has been for defense systems by both government and commercial agencies. It is expected that the facility will continue to be as active in future years.

Table I. Radiation Effects Facility usage by commercial and government customers for this and previous reporting years.

Reporting Year	Total Hours	Commercial Hours (%)	Government Hours (%)
2005-2006	2,314	1,314 (57%)	1000 (43%)
2004-2005	2,012	1,421 (71%)	591 (29%)
2003-2004	1,474	785 (53%)	689 (47%)
2002-2003	1,851	1,242 (67%)	609 (33%)
2001-2002	1,327	757 (57%)	570 (43%)
2000-2001	1,500	941 (63%)	559 (37%)
1999-2000	548	418 (76%)	131 (24%)
1998-1999	389	171 (44%)	218 (56%)
1997-1998	434	210 (48%)	224 (52%)
1996-1997	560	276 (49%)	284 (51%)
1995-1996	141	58 (41%)	83 (59%)

Table II lists the beams used this year and the number of times each was requested. In total, 511 beams were run this year which is 28% more than the previous year. 15 and 25 MeV/u Kr and Xe were most utilized as well as 15 MeV/u Au. No new beams were added to SEELine users list.

Table II. Beams used and the number of times requested for this reporting year and previous years. 511 beams were run this year.

Particle Type	A MeV	Requests 2000-01	Requests 2001-02	Requests 2002-03	Requests 2003-04	Requests 2004-05	Requests 2005-06
²⁰ Ne	15	1	13	19	15	23	36
⁴⁰ Ar	“	4	24	43	46	51	56
⁶³ Cu	“	N/A	N/A	5	14	22	23
⁸⁴ Kr	“	6	26	55	47	49	75
¹⁰⁹ Ag	“	N/A	N/A	6	18	15	26
¹²⁹ Xe	“	5	18	43	51	50	78
¹⁴¹ Pr	“	N/A	N/A	2	2	1	4
¹⁶⁵ Ho	“	3	11	17	7	8	22
¹⁸¹ Ta	“	4	5	4	3	5	3
¹⁹⁷ Au	“	12	9	23	34	34	46
²² Ne	25	27	13	19	6	15	21
⁴⁰ Ar	“	31	20	32	16	25	31
⁸⁴ Kr	“	32	20	35	26	33	40
¹²⁹ Xe	“	25	18	24	15	25	34
H-D	40	1	8	10	4	7	4
²⁰ Ne	“	5	3	5	6	11	2
⁴⁰ Ar	“	12	8	10	7	13	7
⁷⁸ Kr	“	13	9	6	5	10	3
Total		192	207	360	324	399	511