



Results from Archive Data From SMART-1 Combined with Recent Missions

Bernard Foing

RESULTS FROM SMART-1 ARCHIVE DATA COMBINED WITH RECENT MISSIONS

We highlight new results from combined data analysis using SMART-1 archive with data from other recent lunar missions. We concentrate on results obtained on the lunar farside, the poles and about the coupling between impact, volcanic and tectonic processes.

SMART-1 demonstrated the use of Solar Electric Propulsion for deep space, tested new technologies for spacecraft and instruments

miniaturisation, and provided an opportunity for science [1-24] until impact on 3 September 2006.

To date, 77 refereed papers and more than 330 conference or technical papers have been published based on SMART-1 (see ADS on SMART-1

scitech website). The SMART-1 data are accessible on the ESA Planetary Science Archive PSA [13].

The lunar North and South polar illumination was mapped and monitored over the entire year, permitting to identify “SMART-1 peaks of quasi-eternal light”, then characterised with subsequent missions.

The surface mineralogy maps of the central and northern parts of the South-Pole Aitken basin, was based on Clementine and SMART-1 AMIE images for additional geomorphological and stratigraphic information.

- [1] Foing et al (2001) EMP 85-523
- [2] Racca et al (2002) EMP 85-379
- [3] Racca et al. (2002) PSS 50-1323
- [4] Grande et al. (2003) PSS 51-427
- [5] Dunkin et al. (2003) PSS 51-435
- [6] Huovelin et al. (2002) PSS 50-1345
- [7] Shkuratov et al (2003) JGRE 108-E4-1
- [8] Foing et al (2003) ASR 31-2323
- [9] Grande et al (2007) PSS 55-494
- [10] Pinet et al (2005) PSS 53-1309
- [11] Josset et al (2006) ASR 37-14
- [12] Foing et al (2006) ASR 37-6
- [13] Heather et al, EPSC-DPS 2011-873
- [13b] <http://www.rssd.esa.int/psa>
- [14] Muinonen et al (2011) A&A531-150
- [15] Souchon et al EPSC-DPS 2011-928
- [16] Grieger (2010) cosp 38-417
- [17] Bussey et al (2011) LPICO-1621-5
- [18] Pluchino et al MSAItS 16-152
- [19] Qiao (2011) AcASn 52, 539
- [20] Vaananen et al (2009) SolarPhys 260-479
- [21] Alha et al (2012)NIMPA 664, 358
- [22] Bhattacharya et al EPSC-DPS 2011-1842
- [23] Burchell et al (2010) Icarus207-28
- [24] Borst et al (2012) PSS 68, 76