

ROTATIONAL PROPERTIES OF SMALL ASTEROIDS: 1992 OBSERVATIONAL RESULTS

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During 1992 we have continued the observational program about the rotational properties of asteroids and we report here the results obtained with the 1 m telescope at the European Southern Observatory (La Silla, Chile). We observed the following asteroids determining their periods using the Fourier analysis method (Harris *et al.*, 1989, *Icarus* 77, 171):

Name	Period (h)
142 Polana	9.770 ± 0.008
188 Menippe	15.97 ± 0.01
276 Adelheid	6.328 ± 0.005
378 Holmia	4.44 ± 0.01
614 Pia	4.572 ± 0.005
2791 Paradise	9.811 ± 0.006
3052 Herzen	11.60 ± 0.01

The determined rotational periods represent a small percentage compared to the complete sample of small asteroids, but they seem confirming the existence of the “natural break” in the rotational rate distribution described by Barucci *et al.*, 1991 (Proc. Intern. Conf. on Asteroids, Comets, Meteors 1991, Flagstaff, Arizona) who analyzed a sample of more than 200 asteroids with diameter less then or equal to 50 km. This feature was interpreted like an indication of a separation between primordially accreted objects and fragments of subsequent collisions.

DISCUSSION

L.K. KRISTENSEN: Could the difference between the frequency curve for $D \geq 50$ and $D < 50$ km not be caused by larger observational uncertainties for the latter ?

E. DOTTO: No, there are no observational uncertainties - the gap obtained for $D < 50$ km asteroids, corresponding to ~ 2.25 rev/day, could be the indication of two different evolutionary status in the sample of small asteroids. However, selection effects could not be excluded. For this reason we are continuing our observational effort in order to increase the data base of small asteroids.