

Imaging polarimetry of comet C/2009 P1 (Garradd)

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Comet C/2009 P1 (Garradd) was observed with the 2m telescope at IGO, India in October, 2011. The observations were carried out in narrowband red filter (CR 684 nm, $\Delta\lambda$ 9nm.) by imaging polarimetry method. The phase angle of the comet was 30.9° – 30.8° at a solar distance of about 1.5 AU during the period of observation. In the present work, intensity enhancement technique (rotation gradient) has been applied to emphasize different dust regions in the cometary coma. Polarization measurements at different apertures of coma and polarization maps have been obtained. The same comet was observed some days later in October, 2011 from OHP, France with the 0.8m telescope at a phase angle 30.3° (Hadamcik et al. 2014). It is interesting to compare the results at similar phase angles between 28° and 34° , before and after perihelion (from October 2011 to March 2012) and note the important changes in the coma structures and polarization maps regions.

Keywords: Comets C/2009 P1 (Garradd), imaging polarimetry, scattering, polarization, cometary dust, features of cometary coma, intensity enhancement techniques.

Reference:

Hadamcik E, Sen A.K, Levasseur-Regourd AC, Roy Choudhury S, Lasue J, Gupta R, Botet R. 2014. Dust coma of comet C/2009 P1 (Garradd) by imaging polarimetry. *Meteoritics and Planetary Science*, in press, published on line, doi: 10.1111/maps.12114