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Diurnal anisotropy of polar neutron monitors, Dome C looks poleward

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Galactic cosmic rays (GCR) show a small local anisotropy detected as a diurnal variability of neutron monitor (NM) count rates. As the asymptotic directions of different NMs are diverse, the capability of the GCR diurnal variation observation is also various. Here we present that the Dome C (DOMC) NM is barely sensitive to the diurnal variation. Its amplitude is very small, 0.03%, in comparison to other polar NMs, for which the diurnal variability amplitudes vary from 0.16 to 0.4%. This fact is associated to the narrow asymptotic-direction cone of DOMC NM looking almost to the South pole with geographic latitude above 75°. Thus, DOMC NM is the only existing NM accepting cosmic-ray particles from the off-equatorial region, which makes this station a unique detector.