

**VARIATIONS IN THE RATE OF DEPOSITION OF ^{10}Be , ^{14}C AND NO_3
DUE TO THE VARIABLE VECTOR GEOMAGNETIC DIPOLE, 8000BC-
2000AD.**

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The time dependence of the production of the cosmogenic isotopes (eg ^{10}Be and ^{14}C) and compounds (eg NO_3) due to changes in the vector geomagnetic dipole over the period 8000BC-2000AD is analyzed. Using the known variations of the dipole strength (32%) and direction (22 degrees), the geomagnetic cutoffs are computed as a function of time. The majority of the production of the cosmogenic isotopes and compounds occurs in the atmosphere in the gaseous phase, and they are distributed by atmospheric circulation prior to precipitation to earth, and this minimizes the influence of the higher order components of the geomagnetic field. Further, the storage times prior to deposition varies between the cosmogenic products, and between the troposphere and stratosphere. Combining the variations in geomagnetic cutoff; and the different precipitation rates, the variability in the concentration of the three cosmogenic products (^{10}Be , ^{14}C and NO_3) in polar ice, and in tree rings is computed for both the galactic and solar cosmic radiation. It is shown that the effects can be substantial, and that there are observable variations with time and with the point of observation in the polar cap. It is concluded that correction for these effects is necessary in order to use the cosmogenic products to study the variability of the cosmic radiation over historical time.