be measured on exposed targets at mountain altitudes. We report first ^{21}Ne results obtained from a Si target exposed on Mt. Evans, Colorado.

We used an experimental melt (Corning Glass) substituting a small amount of Li for Na. The glass (2091 g) was placed in a 13 × 31 cm stainless steel cylinder. The stem was double valved to prevent leakage. To reduce self-shielding, the cylinder was designed to be only about half filled and lie on its side. The glass was degassed by heating numerous times above the softening temperature. Reaction of the glass with the stainless steel cylinder was apparent by glass analysis after the Ne study. The sample was exposed to cosmic rays for *ca.* 3 yr on the summit of Mt. Evans, Colorado before it was transported to La Jolla for analysis.

Calibrations of the $^{40}Ar^{++}$ and CO_2^{++} interferences on masses 20 and 22, respectively, revealed that the ratios of doubly to singly charged ^{40}Ar and CO_2 ions are not constant. Our Ne analytical procedure monitors the peaks at masses 2, 18, 19, 20, 21, 22, 40, 42, and 44. The ratios $^{40}Ar^{++}/^{40}Ar^{+}$ and CO_2^{++}/CO_2^{+}, respectively, are calculated according to Graf *et al.* (1994) and the appropriate calibrations. The resulting interference corrections are subtracted individually for each cycle. We also need to calibrate the Ne sensitivity of the instrument as changes in the charge states and charge density in the ion source affect concentration measurements.

A significant fraction of the cosmic-ray produced Ne (36%) was in the gas phase of the cylinder. Ne was then extracted in 3 steps at increasing temperatures and a re-extraction step at 950°C was added. Trapped Ne in all steps was fractionated up to 2% per amu, an effect that is presumably due to the extensive degassing prior to exposure. The total excess ^{21}Ne observed in the glass corresponds to 1500 atoms g^{-1} (SiO_2) and we calculate a production rate P_{21} (SiO_2)= 410 ± 60 atoms $a^{-1}g^{-1}$ (SiO_2) at Mt. Evans (4250 m) altitude. The uncertainty includes current uncertainties in the Ne sensitivity and in mass discrimination which were added quadratically. The procedure of Lal (1991) is used to calculate the production at sea level, and P_{21} (SiO_2)=19.3 atoms $a^{-1}g^{-1}$ (SiO_2) for latitudes >60° is obtained. No corrections have yet been applied for self-shielding and for flux variations during the solar cycle (the exposure occurred during maximum solar activity). This value may be compared to a production rate P_{21} = 21 atoms $a^{-1}g^{-1}$ (quartz) obtained by Niedermann *et al.* (1994) for Sierra Nevada quartz samples.

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