NEON GALACTIC COSMIC RAY ISOTOPIC ABUNDANCES: COMPARISON WITH WOLF-RAYET STAR MODELS AND METEORITIC ABUNDANCES

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Measurements of the neon isotopic abundances by the ACE-CRIS experiment have been obtained in seven energy intervals over the energy range of $\sim 80\leq E\leq 280$~MeV/nucleon. The ^{22}Ne/^{20}Ne source ratio is derived using the measured ^{21}Ne abundance as a “tracer” of secondary production of the neon isotopes. We find that the ^{22}Ne/^{20}Ne abundance ratio at the cosmic-ray source is a factor of 5.0 ± 0.2 greater than for the solar wind. The GCR ^{22}Ne/^{20}Ne ratio is also shown to be considerably larger than that found in anomalous cosmic rays, solar energetic particles, and most meteoritic samples of matter. Recent two-component Wolf-Rayet and supernovae models in which GCRs at Earth preferentially sample material from the galactic interior provide predictions for the ^{22}Ne/^{20}Ne ratio and other isotope ratios. We will compare the CRIS neon, magnesium, silicon, and iron isotopic source abundance ratios with predictions from these models.