

WHERE DO EARTH'S INNER RADIATION BELT ELECTRONS COME FROM?

What is the science question?

Where do electrons in Earth's inner radiation belt come from?

What are the findings?

Cosmic Ray Albedo Neutron Decay (CRAND) is a dominant contributor. Consequently, the first experimentally derived neutron density in near-Earth space is made.

What is the impact?

Six decades of inner radiation belt dynamics need revisiting. Near-Earth neutron density measurements can be made easily.

Why does it matter?

Scientists need to understand fundamental physics occurring in near-Earth space - like aircraft and terrestrial weather, satellite operations are affected by "space weather". Space physical properties learned near Earth apply across the heliosphere.

