



Dynamics of the Earth's Radiation Belts and Inner Magnetosphere

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DESCRIPTION

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Dynamics of the Earth's Radiation Belts and Inner Magnetosphere draws together current knowledge of the radiation belts prior to the launch of Radiation Belt Storm Probes (RPSP) and other imminent space missions, making this volume timely and unique. The volume will serve as a useful benchmark at this exciting and pivotal period in radiation belt research in advance of the new discoveries that the RPSP mission will surely bring. Highlights include the following: a review of the current state of the art of radiation belt science; a complete and up-to-date account of the wave-particle interactions that control the dynamical acceleration and loss processes of particles in the Earth's radiation belts and inner magnetosphere; a discussion emphasizing the importance of the cross-energy coupling of the particle populations of the radiation belts, ring current, and plasmasphere in controlling the dynamics of the inner magnetosphere; an outline of the design and operation of future satellite missions whose objectives are to discover the dominant physical processes that control the dynamics of the Earth's radiation belts and to advance our level of understanding of radiation belt dynamics ideally to the point of predictability; and an examination of the current state of knowledge of Earth's radiation belts from past and current spacecraft missions to the inner magnetosphere. *Dynamics of the Earth's Radiation Belts and Inner Magnetosphere* will be a useful reference work for the specialist researcher, the student, and the general reader. In addition, the volume could be used as a supplementary text in any graduate-level course in space physics in which radiation belt physics is featured.

ABOUT THE AUTHOR

Danny Summers and I. R. Mann are the authors of Dynamics of the Earth's Radiation Belts and Inner Magnetosphere, published by Wiley.

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