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Nota di contenuto	Intro -- Table of Contents -- Title Page -- Copyright Page -- Foreward -- Note From the Series Editor -- Preface -- Authors -- Reviewers -- Acknowledgments -- Glossary -- List of Acronyms and Abbreviations -- 1 The History of the Invention of Radioisotope Thermoelectric Generators (RTGs) for Space Exploration -- References -- 2 The History of the United States's Flight and Terrestrial RTGs -- 2.1 Flight RTGS -- 2.2 Unflown Flight RTGs -- 2.3 Terrestrial RTGs -- 2.4 Conclusion -- References -- 3 US Space Flights Enabled by RTGs -- 3.1 SNAP3B Missions (1961) -- 3.2 SNAP9A Missions (1963-1964) -- 3.3 SNAP19 Missions (1968-1975) -- 3.4 SNAP27 Missions (1969-1972) -- 3.5 TransitRTG Mission (1972) -- 3.6 MHWRTG Missions (1976-1977) -- 3.7 GPHSRTG Missions (1989-2006) -- 3.8 MMRTG Missions: (2011 Present (2021)) -- 3.9 Discussion of Flight Frequency -- 3.10 Summary of US Missions Enabled by RTGs -- References -- 4 Nuclear Systems Used for Space Exploration by Other Countries -- 4.1 Soviet Union -- 4.2 China -- References -- 5 Nuclear Physics, Radioisotope Fuels, and Protective Components -- 5.1 Introduction -- 5.2 Introduction to Nuclear Physics -- 5.3 Historic Radioisotope Fuels -- 5.4 Producing

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## Sommario/riassunto

"Radioisotope Thermoelectric Generators (RTGs) produce continuous, quiet electrical power for spacecraft exploring our solar system and the space beyond. These generators use thermoelectric technologies to convert heat produced by the natural decay of radioisotopes into electrical power. Two leading thermoelectric material systems have emerged as contenders to supplant currently available thermoelectric materials. Each is at a differing level of readiness for flight. Both are poised to emerge from the laboratory and be brought to production for newer, potentially more powerful RTGs. This should enable spacecraft and mission designers to save on mass and radioisotope fuel consumption. In addition, one of the technologies is so efficient and powerful as to enable new mission types."--

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