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Creating and Exploring
the System Tradespace

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Trade-off Analytics: Creating and Exploring the System Tradespace

TRADE-OFF ANALYTICS

Creating and Exploring the System Tradespace

Edited by

GREGORY S. PARNELL

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Adam M. Ross is a senior innovator at The Perduco Group and cofounder and former lead research scientist for the MIT SEArI, a research group focused on advancing the theories, methods, and effective practice of systems engineering applied to complex sociotechnical systems through collaborative research with industry and government. Dr Ross has published over 90 papers in the areas of space systems design, systems engineering, and tradespace exploration. He has received numerous paper awards, including the Systems Engineering 2008 Outstanding Journal Paper of the Year. He has led over 15 years of research and development of novel systems engineering methods, frameworks, and techniques for evaluating and valuing system tradespaces and the “ilities” across alternative futures during early phase design. He uses a transdisciplinary approach, leveraging techniques from engineering design, operations research, behavioral economics, and interactive data visualization. He serves on technical committees with both AIAA and IEEE and is recognized as a leading expert in system tradespace exploration and change-related “ilities.” He consults for government agencies, applying analytic techniques for decision support and optimization for acquisition planning. Application domains have included civil transportation, defense and civil aerospace, and commercial and defense maritime systems. Dr Ross holds a dual bachelor’s degree in Physics and Astrophysics from Harvard University, two master’s degrees in Aeronautics and Astronautics Engineering and Technology & Policy from MIT, as well as a doctoral degree in Engineering Systems from MIT.

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