1. Record Nr. UNINA9910973896903321

Titolo	Transforming combustion research through cyberinfrastructure / / Committee on Building Cyberinfrastructure for Combustion Research
Pubbl/distr/stampa	Washington, DC, : National Academies Press, 2011
ISBN	9786613135025 9780309215138 0309215137 9781283135023 1283135027 9780309163880 0309163889
Edizione	[1st ed.]
Descrizione fisica	1 online resource (115 p.)
Disciplina	333.79
Soggetti	Combustion - Research Fossil fuels
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	""Front Matter""; ""Preface""; ""Acknowledgments""; ""Contents""; ""Summary""; ""1 Introduction""; ""2 Cyberinfrastructure""; ""3 Combustion and Cyberinfrastructure""; ""4 Recommendations""; ""Appendixes""; ""Appendix A: The GRIMech Model""; ""Appendix B: CHEMKIN Chemical Kinetics Software""; ""Appendix C: Direct Numerical Simulations""; ""Appendix D: Chemical Kinetic Reaction Mechanisms""; ""Appendix E: Committee Meeting Agendas""; ""Appendix F: Biographies of the Committee Members""
Sommario/riassunto	Combustion has provided society with most of its energy needs for millennia, from igniting the fires of cave dwellers to propelling the rockets that traveled to the Moon. Even in the face of climate change and the increasing availability of alternative energy sources, fossil fuels will continue to be used for many decades. However, they will likely become more expensive, and pressure to minimize undesired combustion by-products (pollutants) will likely increase. The trends in the continued use of fossil fuels and likely use of alternative

combustion fuels call for more rapid development of improved combustion systems. In January 2009, the Multi-Agency Coordinating Committee on Combustion Research (MACCCR) requested that the National Research Council (NRC) conduct a study of the structure and use of a cyberinfrastructure (CI) for combustion research.