

1. Record Nr.	UNINA9910483483203321
Titolo	Powers of two : the information universe - information as the building block of everything // Edwin A. Valentijn, editor ; with a foreword by Robert Dijkgraaf
Pubbl/distr/stampa	Cham, Switzerland : , : Springer, , [2021] ©2021
ISBN	3-030-58345-7
Descrizione fisica	1 online resource (189 pages)
Disciplina	530.15
Soggetti	Information theory in physics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Intro -- FOREWORD -- CONTENTS -- CHAPTER 1 INTRODUCTION -- JOYRIDING THE UNIVERSE -- THE INFORMATION UNIVERSE -- WHAT IS INFORMATION? -- CHAPTER 2 THE BEGINNING -- Ti - Spacetime foam -- MULTIVERSE Anthropic principle -- Big Bang -- WHAT IS A BIT? -- Multicellular Life In vivo -- THE GAME OF LIFE In vitro -- CHAPTER 3 PEOPLE'S INFORMATION UNIVERSE -- ASCII in vitro -- Machu Picchu -- First Computers -- COVID-19 -- STAR PEACE MACHU PICCHU AT THE CANARIAS -- PRE-INTERNET FACTS AND FAKES -- Hard disk -- THE TELEPHONE IN VIVO - IN VITRO -- DNA -- FROM 1D DNA TO 3D PROTEINS -- WHERE DOES BIOLOGICAL INFORMATION COME FROM? -- DVD -- Biobanking for human health -- Human Brain -- NEUROMORPHIC COMPUTING -- DARK ENERGY - DARK MATTER -- Gaia: a billion stars -- CT Scan -- Terabyte -- PARANAL OBSERVATORY -- GRAVITATIONAL LENSING -- FROM TERABYTES TO TWO NUMBERS -- THE EUCLID SATELLITE -- Big Data -- Watching a Black Hole IN VITRO -- WATCHING A BLACK HOLE -- DARK MATTER MAPS -- Hundreds of petabytes -- FUTURE - MORE THAN HUNDREDS OF PETABYTES STAGE IV COSMOLOGY -- THE UNIVERSE AS A SPREADSHEET DOWNLOADING THE UNIVERSE -- METADATA DATA-CENTRIC APPROACH -- THE INFORMATION UNIVERSE IN VIVO - IN VITRO -- IN VIVO - IN VITRO STORY OF THE LOST BOY -- VIRTUAL OBSERVATORY - ALADIN -- VIRTUAL OBSERVATORY IVOA -- Qubits -- QUANTUM COMPUTERS GET

REAL -- ENTANGLEMENT -- Exabyte - SKA -- Cryptography -- NATURE
PROCESSES INFORMATION -- CHAPTER 4 DEEP SPACE -- The Desert
66-400 BITS -- Black Hole -- UNRAVELING BLACK HOLES WITH
GRAVITATIONAL WAVES -- LINKS THE UNIVERSE AS A SPREADSHEET --
The CMB -- Cosmic event horizon -- EMERGENT GRAVITY -- CHAPTER
5 IT FROM BIT -- INFORMATION DENSITY -- ENTROPY -- SCIENCE
FROM FISHER INFORMATION -- MULTIVERSE FROM FISHER
INFORMATION -- ON THE ORIGIN OF PHYSICAL INFORMATION --
BLACK-BODY RADIATION.
COSMIC INFORMATION COSMOGENESIS AND DARK ENERGY -- CosmIn
and the Cosmological constant -- SYSTEM OF SCIENCE -- THE EAR
COPYING INFORMATION -- VISUALIZATION FROM IN VIVO TO
CONSCIOUSNESS -- CONSCIOUSNESS -- INTELLIGENCE -- ARTIFICIAL
INTELLIGENCE -- SOMNIUM LIVE -- IT FROM BIT FROM 4PI FROM TI 4PI
IN THE SKY -- THE INFORMATION UNIVERSE -- FACTS AND FAKES --
LIFE -- APPENDIX -- POWERS OF TWO IN A TABLE -- REFERENCES --
ILLUSTRATIONS.
