# POWERS OF TEN

A book about the relative size of things in the universe and the effect of adding another zero

Philip and Phyh's Motrison and The Office of Charles and Ray Eames

based on the film *Powers of Ten*by The Office of Charles and Ray Hames

UNIVERSITAT LIECHTENSTEIN Bibliothek

> SCIENTIFIC AMERICAN IJBIUKY

A division of HPHLP New York

### **CONTENTS**

### LOOKING AT THE WORLD: AN ESSAY 1

## **THE** JOURNEY 17

### IN COMMENT 107

Rules for a Journey of Mind and Eye 108

Powers of 10: How to Write Numbers Large and Small 112

Units of Length 114

Reading the Rainbow 116

Instrumental Vision 118

Chronology 122

Sources and Notes 127

Resources for the Reader 148

Index 151