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Forty More Years of Ramifications: Spectral Asymptotics and Its Applications

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Preface

The 1948 Gibbs Lecture of the American Mathematical Society was delivered by Hermann Weyl, who reviewed almost 40 years of research by himself and others on spectral theory and related asymptotics. Another 40 years having passed since the publication of Weyl's lecture, we have inaugurated the series **Discourses in Mathematics and Its Applications** with this collection of related articles. A number of mathematicians and physicists have generously contributed expositions of developments in spectral theory, asymptotic analysis, and their applications.

Weyl's article is reprinted here by permission of the American Mathematical Society. The lecture by Bryce DeWitt upon the occasion of receiving the Dirac Medal of the International Centre for Theoretical Physics was originally distributed in the booklet *The Dirac Medals of the ICTP—1987*, and we thank the ICTP for permission to republish it here. The contribution of Peter Gilkey is based on lectures delivered at ICTP in 1988. All the other papers have been written specifically for the occasion.

We are especially grateful to Jan Want, who typed several of the manuscripts and massaged the others, submitted in many different flavors of TEX, into a consistent format. Karola Feltz and Norman Naugle have provided indispensable help in the production and distribution of the book.

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