Title: Getting asymptotic solutions of Schrödinger equations: A "new" method

Abstract

The so-called WKB and phase-integral methods are used to get higher order asymptotic solutions of Schrödinger equations. After a brief review on the WKB and phase-integral methods, I will introduce a method of Sibuya that has been used for theoretical purpose, but not for practical applications. Validity of general procedures of the WKB and phase-integral methods are somewhat dubious. Here we will show how the method of Sibuya is mathematically sound and can be used for practical purpose. A number of open problems will be suggested.

All are welcome.