
Physics Colloquium

University of Missouri-Kansas City

Department of Physics

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Series Manipulation Made Easy: An Alternative Technique

We will discuss a technique for manipulating power series which differs from usual approaches and offers a reduction in tedium, allowing one to write down expansion coefficients directly. The method is effective for developing expansions in several variables, and is particularly useful in series manipulation, e.g. in operations where one must take the reciprocal of a power series or raise it to a power that may be fractional or irrational. We use our technique to generate an electrostatic multipole expansion as a demonstration of its merit in producing coefficients of special functions such as the Legendre and Laguerre polynomials.

February 27, 2009

Physics Department
Robert H. Flarsheim Science & Technology Hall
5110 Rockhill Road
University of Missouri-Kansas City

****Coffee at 3:10: Colloquium at 3:30 in Room 310****