Deborah Konkowski

Department of Mathematics, U.S. NavaL Academy, Annapolis, MD 21402

Quantum singularities in static and conformally static space-times

Authors: D. A. Konkowski and T. M. Helliwell

The definition of quantum singularity is extended from static space-times to conformally static space-times. After the usual definitions of classical and quantum singularities are reviewed, examples of quantum singularities in static space-times are given. These include asymptotically power-law space-times, space-times with diverging higher-order differential invariants, and a space-time with a 2-sphere singularity. The theory behind quantum singularities in conformally static space-times is followed by several examples: a Friedmann-Robertson-Walker space-time with cosmic string, Roberts space-time, Fornav space-time, and the HMN metric. Future areas of research are discussed.