

1014-51-1305

Daniela Mihai* (dam33@pitt.edu), Dept of Mathematics, Univ. of Pittsburgh, 301 Thackeray Hall, Pittsburgh, PA 15206, and **George Sparling**. *Special metrics on intersection of quadrics*. Preliminary report.

It is known that intersection of quadrics gives self-dual space-times. We study the properties of the space-times that arise on the twistor space given by the base of a non-singular diagonalizable pencil of quadrics. We also present results regarding the metrics arising on singular pencils for which at least one quadric is non-singular, but the quadrics are not necessarily simultaneously diagonalizable. The second part of the paper connects elliptic curves and twistor spaces. Elliptic curves are known to arise on the intersection of quadrics. We try to establish a connection with hyperelliptic curves of genus 2. (Received September 27, 2005)