
Li Deng
Analysis of a New GPS Algorithm

University of Wyoming Mathematics Department
1000 E University Avenue
Suite 3036
Laramie
WY 82071-3036 USA
`deng17us@yahoo.com`
Hyoseop Lee
Craig Douglas

We propose and analyze a new GPS positioning algorithm. Our algorithm uses direct linearization technique to reduce the computation time overhead. We invoke the general least squares method instead of the ordinary least square method in order to achieve optimality in the situation. We systematically evaluate our new algorithms and show that they do indeed take much less computation time than the traditional GPS method while maintaining reasonable accuracy. Numerical examples verify our claims.