

Light curve inversion is a standard method to determine shapes, rotation periods and spin axis orientations of asteroids. This method can be extended to determine the size, albedo, thermal inertia and surface roughness parameters of an asteroid by including observations in thermal infrared. A solution of the Heat Conduction Equation (HCE) is necessary to model infrared flux from the asteroid. We analyse the accuracy requirements of the extended method for numerical solution of the HCE. We show that current implementation leads to errors in flux that are substantial. We recommend changes in the current implementation of the HCE solving approach to address the accuracy issues. We discuss uniqueness and stability of the solutions produced by the extended method as well as the accuracy of the determined parameters and their stability. Shapes of asteroids are produced and their physical attributes are determined based on light curve and infrared data.