Update on SAGE algorithm: uncertainty maps for asteroid shape and pole solutions.

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SAGE (Shaping Asteroids with Genetic Evolution) inversion method is based on genetic algorithm to obtain pole solutions, rotation periods and non-convex shapes of asteroids. During the process computer graphics methods are used to compare model's synthetic lightcurves to photometric observations. The method is suitable of modelling both single and binary objects. A modelling run starts with a sphere, with no assumptions about the shape, and subsequently it converges to a stable spin and shape solution. Asteroid modelling process consists of many such runs, each of them going a different path and arriving at slightly different solution for the shape, creating a family of models. By comparing multiple solutions we are able to construct a map of uncertainties for the shape, showing areas of good and poor agreement between various solutions, which then can be represented with a 3D visualisation. Also, we create a map of errors for pole solutions and periods. Model of (3169) Ostro will be used as an example of this upgrade of the SAGE method.