CLAIMS

1. A method of fire control against aerial targets on their way towards an object of protection, wherein a position of the object of protection is known, the method comprising:

measuring a position of the aerial target,

estimating the position of the aerial target,

estimating a velocity of the aerial target,

applying a model of a guidance law of the aerial target,

calculating an acceleration of the aerial target to hit the object of protection,

predicting a future trajectory of the aerial target based on the position of the object of protection, the estimated position of the aerial target, the estimated velocity of the aerial target, and the calculated acceleration of the aerial target, and

calculating points of aim along the predicted future trajectory.

2. The method of fire control against aerial targets according to claim 1, wherein the guidance law of the aerial target comprises navigation constants calculated by multiplying an observed acceleration by a predicted time to impact into the object of protection squared, divided by a distance from the aerial target to the object of protection.

3. The method of fire control against aerial targets according to claim 2, wherein the guidance law of the aerial target comprises a maximum acceleration, a size of

which is estimated by an analysis of the observed acceleration of the aerial target.

4. The method of fire control against aerial targets according to claim 1, wherein the position of the object of protection is the position of a gun-based anti-aircraft defence.

5. A fire control system for fire control against aerial targets, the fire control system comprising:

at least one sensor for measuring a position of the aerial target as a function of time,

a control module configured to

measure a position of the aerial target,

estimate the position of the aerial target,

estimate a velocity of the aerial target,

apply a model of a guidance law of the aerial target,

calculate an acceleration of the aerial target to hit the object of protection,

predict a future trajectory of the aerial target based on the position of the object of protection, the estimated position of the aerial target, the estimated velocity of the aerial target, and the calculated acceleration of the aerial target, and

calculate points of aim along the predicted future trajectory.