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2000-2001: Israel Aircraft Industries, MBT Division, System Engineer of satellite program

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1992-1994: Scientific Education Center in Tel Aviv, physics teacher

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1981-1989: Hebrew University, Jerusalem. Research in Astrophysics and Plasma Physics (Ph.D. in Plasma Physics)

## **A new concept for exo-atmospheric KV with large divert capability.**

Galya Goldner, Joseph Hasson

A small exo-atmospheric interceptor with large divert capability significantly improves the overall interception system performance. In every interception system there is a trade-off between the requirement for the interceptor and for the detection and tracking subsystems. A poor interceptor (slow, with large time constant and small divert capability) requires exceptionally efficient detection and tracking ground sensors (very large detection ranges and high tracking accuracies). On the other hand, a small agile interceptor with large divert capability will release the requirements for detecting and tracking subsystems. More than that, large divert capability of the interceptor may allow a decrease discrimination range and even postpone it to on-board discrimination.

However, achieving large divert capability by DACS systems requires relatively large motors and heavy and expensive KV. This, in its turn, causes the interceptor at launch be bigger, heavier and consequently more expensive

In this paper we will present a new design concept of a KV. This concept is based on the use of a regular rocket motor. It allows a KV design with a high propellant to total mass ratio and as a consequence has an extremely large divert capability. As an additional bonus, the regular motor based design allows significantly reduction in interceptor's cost.