

**Method and device for local stabilization of a radiation spot
on a remote target object**

5 **Abstract**

A method for local stabilization of a radiation spot (S) on a remote target object (Z), wherein the radiation spot (S) is formed by a high energy laser beam (L) that is aimed at the target object (Z) by a high energy radiation emitter (1), and wherein the
10 target object (Z) is illuminated by an illumination beam (B) that is aimed at the target object (Z) by an illumination device (2), distinguished in that radiation (B') reflected by the target object (Z) that is illuminated by the illumination beam (B) is received by an image acquisition device (3); the radiation (B') reflected by the target object (Z) to the image acquisition device (3) passes through the same optical path (P) as the high
15 energy laser beam (L); the image of the illuminated target object (Z) or part of the illuminated target object acquired by the image acquisition device (3) is analyzed and compared to at least one image of the illuminated target object (Z) or part of the illuminated target object produced at a prior point in time or to an image stored in an object database; proceeding from this comparison a correction signal (K) is
20 determined with which an optical correction device (12) arranged in the optical path (P) passed through by both the high energy laser beam (L) and the reflected radiation (B') is actuated; the result of the comparison performed in the image processing device (34) is supplied to a filter device (38) and parallel thereto to a fine tracking controller (39); a filter correction signal (K_F) is produced by the filter device
25 (38) and a controller correction signal (K_R) is produced by the fine tracking controller; and, the correction signal (K) is formed from the filter correction signal (K_F) and the controller correction signal (K_R).

(Fig. 2)