Tracking and Killing Insects Using Photonic Fences

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We designed and developed a photonic fence that locates and tracks insects. Photonic fences have a wide array of uses. They can be deployed outside buildings to prevent disease carrying insects from entering, implemented to track and identify insects for experimentation, and used as a means to safeguard crops from pests. Using cameras, the system locates dark spots against a reflective background. If the spot matches certain criteria, like size and independence, it is identified as an insect. Once identified, the system locates the insect using its relative position on the images taken by the cameras. The next step would be to direct a laser towards the intruder using a galvanometer, This, in turn would kill the insect. We hope that this technology becomes accessible enough for widespread use in the near future.

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