Robust Detection of Radiation Threat

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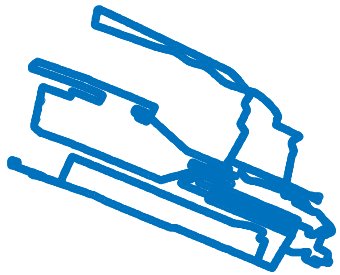

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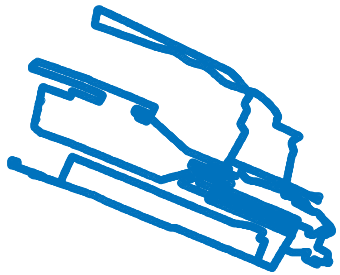

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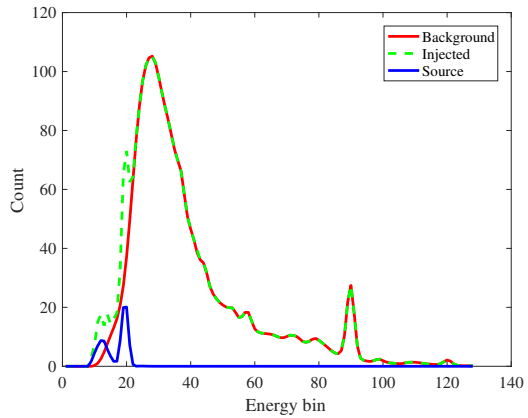

Radiation spectrum of Poisson counts.

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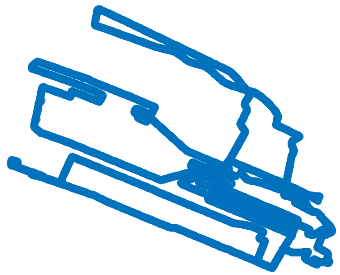
- We propose two new methods that advance the state of the art.



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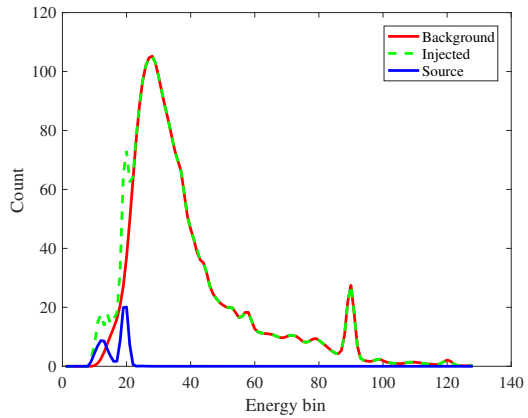

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  - Stationarity of background radiation.

New methods for relaxed assumptions

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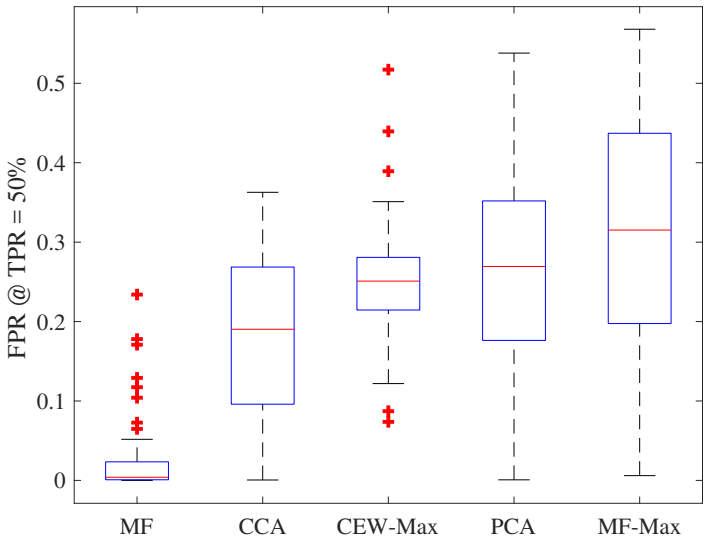

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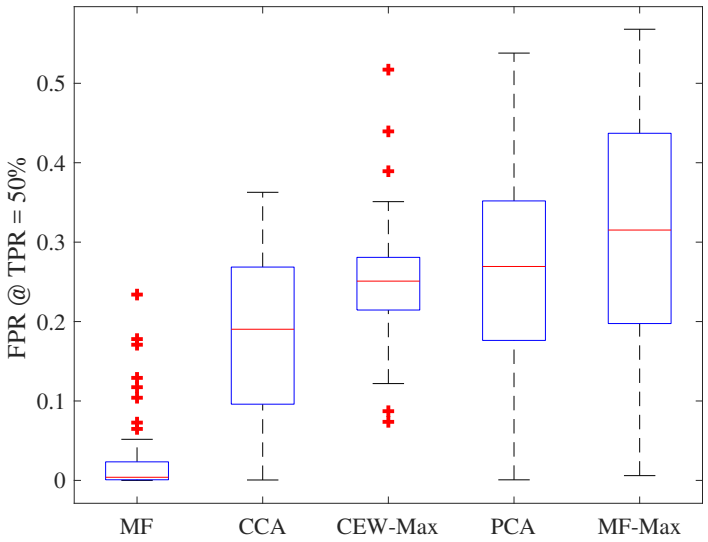

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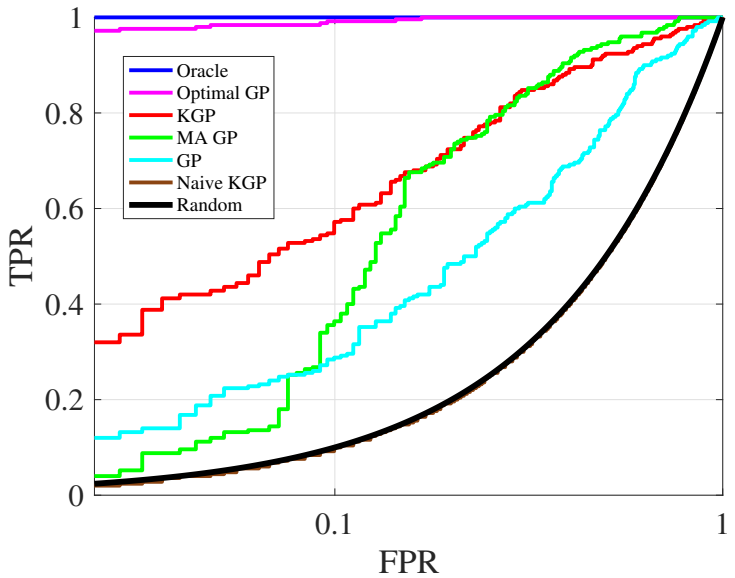

Kalman filter (red) versus other methods with non-stationary background.

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- The methods advance the state of the art as demonstrated in realistic simulations on authentic datasets.
- In the future, we will extend the methods to small handheld detectors rather than large detectors on vehicles.