

# CPHD filter derivation for extended targets

Umut Orguner

(Submitted on 5 Nov 2010 (v1), last revised 15 Nov 2010 (this version, v2))

This document derives the CPHD filter for extended targets. Only the update step is derived here. Target generated measurements, false alarms and prior are all assumed to be independent identically distributed cluster processes. We also prove here that the derived CPHD filter for extended targets reduce to PHD filter for extended targets and CPHD filter for standard targets under suitable assumptions.

Subjects: **Probability (math.PR)**; Dynamical Systems (math.DS); Statistics Theory (math.ST); Applications (stat.AP)

Cite as: [arXiv:1011.1512v2](#) [math.PR]

## Submission history

From: Umut Orguner PhD [[view email](#)]

[v1] Fri, 5 Nov 2010 21:04:55 GMT (7kb)

[v2] Mon, 15 Nov 2010 13:38:11 GMT (7kb)

*[Which authors of this paper are endorsers?](#)*

Link back to: [arXiv](#), [form interface](#), [contact](#).

## Download:

- [PDF](#)
- [PostScript](#)
- [Other formats](#)

Current browse context:

**math.PR**

[< prev](#) | [next >](#)

[new](#) | [recent](#) | [1011](#)

Change to browse by:

[math](#)

[math.DS](#)

[math.ST](#)

[stat](#)

[stat.AP](#)

## References & Citations

- [NASA ADS](#)

Bookmark([what is this?](#))

