Record Nr. UNINA9910719774403321 Advances in Angle-Only Filtering and Tracking in Two and Three **Titolo** Dimensions / / Mahendra Mallick, Ratnasingham Tharmarasa, editor Pubbl/distr/stampa [Place of publication not identified]:,: MDPI - Multidisciplinary Digital Publishing Institute, , 2023 **ISBN** 3-0365-6855-7 Descrizione fisica 1 online resource 660.284245 Disciplina Soggetti Filters and filtration Lingua di pubblicazione Inglese Materiale a stampa **Formato** Livello bibliografico Monografia Two-dimensional bearing-only filtering (BOF) arises in many real-world Sommario/riassunto tracking problems, including underwater tracking using a passive sonar, aircraft surveillance using a passive radar, navigation of a robot using a passive sonar, and undersea exploration of natural resources using sonar. BOF using a single sensor is also a challenging nonlinear filtering problem due to poor observability and the nonlinear measurement model. This filtering problem and associated tracking problem have been studied extensively. Three-dimensional angle-only filtering (AOF) is a two-dimensional counterpart of BOF. Real-world AOF problems include passive ranging using an infrared search and track (IRST) sensor, passive sonar, passive radar in the presence of jamming, ballistic missile and satellite tacking using a telescope, satellite to satellite passive tracking, and missile guidance using bearing-only seekers. The number of publications in the AOF and angle-only tracking in 3D is rather limited compared with the

corresponding problems in 2D.