1173-92-259   **Channa Navaratna*** (`channa@iup.edu`), Dept. of Mathematical and Computer Sciences, 210 South 10th Street, Indiana, PA 15705, and **Menaka Navaratna** (`mnavarat@fgcu.edu`), 10501 FGCU Boulevard South, Fort Myers, FL 33965. *Radio-Tracking of Wild-life with Yagi Antennas using Recursive Filtering.*

While GPS tracking provide an accurate location information, it requires a substantial financial investment. In comparison, VHF radio telemetry is still a popular choice among scientists due to the low equipment cost and ease of maintenance.

Practicality of basic triangulating techniques is limited by the spatial dynamics of the animal. A slow moving animal can easily be tracked using a single antenna. Telemetry data from multiple antennas can significantly improve the accuracy of location. Often data from multiple antennas may create unintentional complication that can result in errors. Wildlife telemetry, in most cases, involves collecting data under less than perfect weather/terrain condition. It is common that some antennas may malfunction for brief periods, may not receive a signal during the data collection process or may fail due to breakdowns. Often obstructions can prevent some antennas from receiving a signal. We investigate ways to use recursive approximation filtering techniques to accommodate data gathered by at asynchronized time intervals, use of mobile antennas, and antenna failures during data gathering. (Received September 21, 2021)