

DEVELOPMENT OF A VISION-BASED SITUATIONAL AWARENESS CAPABILITY FOR UNMANNED SURFACE VESSELS

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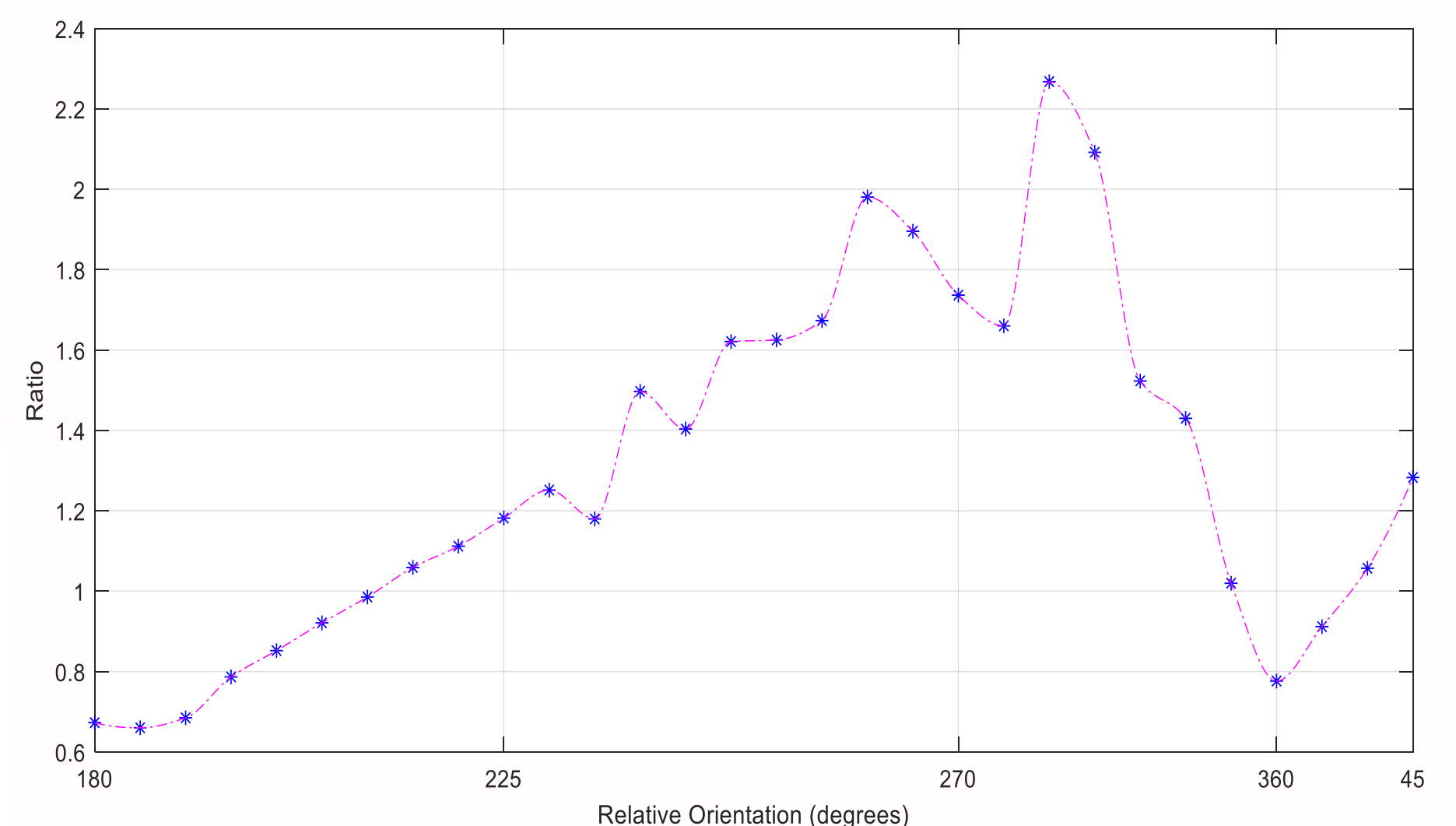
- Objectives

- An algorithm employing edge detection and morphological structuring methods is developed in this thesis to explore the feasibility of using a computer vision-based technique to provide a situational awareness capability for unmanned surface vessels.

- Main research ideas

- Use an image processing algorithm to extract a ship's characteristics from EO imagery.
- Derive orientation of the ship from the ship's characteristics measurement.
- Derive the ship's movement from the measurements.

- Research results



- Benefits/potential applications of the research

- Situational awareness capability can be provided to smaller USV without radar
- Information derived from the algorithm can be fused with other sensor data to increase fidelity of the information.

- Follow-up research activities etc

- Reduce the effects of shadow in the image processing algorithm

Reference