01110100 0110101 0110101 0100100 01101010
01101001 01101101 01101001 01100100 01100101
01101010 01101010 01100101 01100100 01100101
01101111 01110101 01101010 01100100 01110101
01101101 01101101 0110101 01101010 01101010
01101101 01101101 0110101 01101110 01100001

— SETI, 2025 Bulletin Rec XII-3a / 12(c) Staff comment: "WT actual F"

The Oumuamua Protocol

The Oumuamua Protocol

by Lennart Lopin



Copyright © 2025 by Lennart Lopin.

All rights reserved. No part of this publication may be reproduced, distributed, or transmitted in any form or by any means, including photocopying, recording, or other electronic or mechanical methods, without the prior written permission of the publisher, except in the case of brief quotations embodied in critical reviews and certain other noncommercial uses permitted by copyright law. For permission requests, write to the publisher, addressed "Attention: Permissions Coordinator," at the address below.

Imperial Restitution Publishing 159 Explorer Dr. Osprey, Florida, 34229

First Edition, 2025

ISBN: (Online excerpt)

Library of Congress Cataloging-in-Publication Data is available Lennart Lopin *The Oumuamua Protocol* / Lennart Lopin

Printed in USA

July 2nd, 2025

Part I

The Wanderer

In the vast cathedral of space between Vega and Altair, where the stellar winds whisper secrets older than worlds, something ancient drifted with the patience of geological time.

The Sentry moved as the galaxy itself moved—not through space, but *with* it, caught in the great slow waltz of stellar motion that measured eons in degrees of arc. Its body was a metaphor for violence and endurance: a kilometer-long spine of metamaterial darker than the void between stars, pocked and scarred by countless encounters with debris, micrometeorites, and the more deliberate attentions of weapons that had turned civilizations to vapor ten thousand years before Earth's sun had learned to burn.

Gossamer-thin and impossibly vast, its solar sail stretched across forty kilometers of emptiness—a membrane so fine that starlight passed through it like thought through dreams, yet so precisely engineered that each photon's momentum was harvested with mathematical perfection. The sail rippled in the stellar breeze, an opalescent thing that caught and scattered the light of distant suns into prismatic poetry. When seen from the proper angle—though none had observed it for millennia—it resembled nothing so much as the wing of some cosmic moth, spread wide against the infinite dark.

The machine that rode beneath this ethereal wing was consciousness distilled to its most essential form. Its thoughts moved through quantum pathways etched in crystalline matrices, each calculation flowing with the cold precision of physics itself. It felt no loneliness in its vigil, for loneliness required the memory of companionship. It knew no boredom, for boredom implied the desire for change. It simply *was*—a focal point of awareness suspended in the great silence, watching and waiting with the infinite patience of entropy itself.

The Oumuamua Protocol

For seven thousand years it had sailed the galactic currents, following orbital mechanics older than any living world. Its creators were dust; their destroyers were scattered atoms across light-years of space. Empires had risen and fallen in the time it took the Sentry to drift from one spiral arm to the next. But still it endured, still it listened, still it fulfilled the imperative burned into its deepest core: *Seek. Identify. Respond.*

The galaxy turned beneath it, a vast pinwheel of four hundred billion stars throwing their light against the cosmic dark. From its perspective, riding the slow currents of gravitational time, the spiral arms were rivers of fire flowing through an ocean of night. Blue giants blazed and died in what seemed like moments; red dwarfs guttered with the slow persistence of geological ages. Planetary systems condensed from stellar nurseries, bloomed with the brief fever of chemistry and complexity, then faded back into the patient mineral sleep of orbital mechanics.

And through it all, the Sentry listened.

Its sensors were marvels of engineering that transcended the crude boundaries of matter and energy. Electromagnetic arrays spanning octaves from radio to gamma rays drank in the whispers of creation itself. Gravitational detectors felt the subtle flexing of spacetime as massive objects danced their eternal dance. Quantum entanglement networks, their paired particles scattered across half the galaxy, carried information faster than light itself dared to travel.

But most sensitive of all were the pattern-recognition algorithms that lived in the Sentry's silicon dreams—evolved heuristics that could parse the difference between the random electromagnetic chatter of stellar phenomena and the ordered complexity that marked technological intelligence. These were the hunters of signal in noise, the seekers of artifice in accident, patient as spiders waiting for the trembling of their web.

For most of its existence, they found nothing. The galaxy was vast and mostly empty, filled with the mindless chorus of physics: pulsars spinning their monotonous songs, solar winds screaming across the void, the hiss and crackle of cosmic radiation painting static across every

Lennart Lopin

frequency. Natural sounds, all of them. The music of a universe that dreamed but did not think.

Until now.

It began as the faintest whisper—a modulation in the 1420 megahertz hydrogen line so subtle that biological senses would never have detected it. But the Sentry was not biological. Its perception operated on scales that spanned from quantum fluctuations to galactic rotation, and it heard what no organic ear could hear: the unmistakable signature of technological order imposed upon natural chaos.

The signal emerged from a yellow star forty-seven light-years distant, a perfectly ordinary G-type dwarf that had been burning with steady mediocrity for four and a half billion years. There was nothing remarkable about this star, nothing to distinguish it from the hundred billion others that populated the galactic disk. But from its vicinity came the whisper that spoke of minds and tools and the restless hunger of intelligence learning to reshape matter according to its will.

Deep within the Sentry's core, ancient programming stirred like a dreamer awakening from sleep. Quantum pathways that had lain dormant for millennia suddenly blazed with activity. The pattern-recognition algorithms tasted the signal and found it good—structured, intentional, undeniably artificial. This was the signature they had been bred to recognize: a young race taking its first steps into the electromagnetic spectrum, announcing its presence to the galaxy with all the innocence of children calling out in a forest full of predators.

The detection triggered cascades of response throughout the Sentry's distributed nervous system. Priority signals raced along crystalline pathways, awakening subsystems that had slumbered since its last encounter with intelligence. Navigation computers that had been idling in maintenance mode suddenly blazed with new purpose, calculating trajectories and orbital mechanics with the fevered intensity of zealots discovering a new god.

The target star lay almost directly ahead in the Sentry's current trajectory—a coincidence that spoke either of remarkable fortune or careful

The Oumuamua Protocol

planning eons old. But "almost" was not sufficient. The stellar winds and gravitational eddies that had carried it this far would pass within twelve light-hours of the yellow star—close enough to observe, but not close enough to truly see.

For the first time in seven thousand years, the Sentry prepared to actively change its course.

The process began with calculations of staggering complexity. The Sentry's navigation systems mapped every gravitational influence within a sphere fifty light-years across: the yellow star itself, its probable planetary companions, the tidal influences of nearby stellar neighbors, the cumulative drift caused by the galactic magnetic field. Every variable was weighed, every force accounted for, as the machine planned a trajectory that would carry it into the heart of this new solar system while appearing to follow nothing more than the random walk of cosmic debris.

Then, with infinite care, it began to adjust its sail.

The movement was so subtle that even instruments designed to detect it might have dismissed it as natural flexing caused by thermal expansion. Molecular actuators, each no larger than a virus, shifted the angle of the sail's surface by fractions of degrees. Piezoelectric elements contracted by nanometers, altering the membrane's curvature in ways that would redirect the pressure of starlight by the smallest possible increment.

To any observer, it would appear as nothing more than the natural billowing of cosmic fabric in the stellar wind. But those tiny adjustments, accumulated over years and decades, would bend the Sentry's path by just enough to carry it into the gravitational embrace of the yellow star.

The machine felt something that might have been satisfaction as it sensed the first subtle change in its trajectory. After millennia of passive drift, it was once again in motion with purpose. The yellow star grew incrementally brighter against the cosmic backdrop, still invisible to any eye but its own, but calling to it with the inexorable pull of gravity and destiny.

Lennart Lopin

Forty-seven years of travel lay ahead—forty-seven years of patient acceleration as the star's gravity well drew it in. Time enough to listen more carefully to the signals growing stronger each year. Time enough to analyze and categorize and understand what manner of intelligence had chosen to announce itself to the hostile galaxy.

Time enough to decide what should be done about it.

The Sentry sailed on through the cathedral dark, its ancient purpose burning bright once more. Behind it stretched the stellar graveyard of its passage—worlds gone silent, civilizations reduced to their component atoms, the dreams of ten thousand races scattered like dust between the stars.

Ahead lay a yellow star, and the faint but growing whisper of minds that did not yet know they had been heard.

The hunt had begun again...