

Dear Mr. President

As a scientist I wonder whether mankind will be presented with such an opportunity again. In my view we must collectively learn the lessons of the global Covid tragedy, which are ones of our own fragility and mortality, regroup and look beyond these present limitations and onwards to the long-term future progress and prosperity of our kind. If we do not, our presence in this universe will have been of little consequence, a stark prospect which I and many like me reject whole-heartedly.

I am writing to you concerning an extremely unusual celestial body, designated *1I/'Oumuamua*, which was discovered in late 2017 by an Earth-based observatory and subsequently tracked for around three months by astronomers around the world, using telescopes on Earth and in space. Analysis of its trajectory proved it to be of interstellar origin, thus from outside our own solar system, somewhere else in our Milky Way galaxy, the first definitive identification of such an object. It is now beyond the range of even our best telescopes and has left many unanswered questions in its wake.

'*Oumuamua* could only be observed as a single pixel, so it was necessary to deduce its approximate shape from the variation of reflected light as its orientation changed in space - its light curve. It should be noted the vast majority of the images of this body on the internet show an elongated cigar-shaped object. Although this meme seems to have taken hold, there is solid scientific research indicating that it is more likely to be a flat pancake sort of a shape.

Through our '*Project Lyra*' research efforts and, together with various other partner organizations, the '*Initiative for Interstellar Studies*' (*i4is*) have identified two options for a spacecraft mission to '*Oumuama*, they are either a powered flyby of Jupiter or alternatively a powered close approach of the Sun. Both options would require a launch sometime in the years 2030-2033, using a *NASA Space Launch System, SLS*, or alternatively a *SpaceX Starship*, with also a possibility of exploiting the less powerful *SpaceX Falcon Heavy*. Furthermore for the spacecraft itself, several propulsion options have been explored, including chemical propulsion and nuclear thermal propulsion (NTP); the latter is more effective yet requires more technological development. The key discovery is that missions, although challenging, are indeed feasible.

It is hard to overstate the tremendous scientific return of an in-situ observation of '*Oumuamua*, and this knowledge of other stars and planetary systems could otherwise only be achieved by the very challenging task of sending a robotic mission to another star, an endeavor which would require tens of thousands of years journey time using current rocket technology. Interstellar Objects (ISOs) have conveniently saved us these long mission durations by generously arriving on our doorstep, ready for study by a spacecraft.

Analysis of its orbital path revealed that there was an additional force on '*Oumuamua* which has not been accounted for. If its cause was indeed solar radiation pressure, as has been postulated by certain eminent scientists, then this could be in accord with a flat shape. Whether a natural object or artificial, the only means of discovering its true nature is by sending a mission.

In view of the aforementioned imminent launch windows, I must stress the urgency of this matter and look forward to your response.

Scientia ad Sidera!

Regards,

Adam Hibberd