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Dr Nikolaos K. Spyrou
Professor of Astronomy
Aristoteleion University of Thessaloniki
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ESA/PB-HME National Delegate of Greece

Dear Prof. Spyrou,

Thank you very much for your letter of March 13th (2010) outlining your initiative to name the Automated Transfer Vehicle (A.T.V.) 4 of the European Space Agency in the name of one of the greatest scientists of all times : 'Aristarchos of Samos' (310-230 BC).

I found your proposal very interesting and subsequently I discussed this with the members of the Governing Council (G.C.) of the Hellenic Astronomical Society (Hel.A.S.), the professional Society of Greek Astronomers, Astrophysicists and Space Physicists. I am happy to inform you that the GC of Hel.A.S. fully endorses and supports your proposal.

It is well known that the philosopher, astronomer and mathematician *Aristarchos*, advocated that the Earth and the other planets are moving in circular orbits around the stationary Sun, a fact described in ancient historical texts. This idea of Aristarchos of Samos, was adopted 1800 years later by Copernicus who presented the theory of the Heliocentric System. However and unfortunately, the reference to the pioneering work of Aristarchos was on purpose suppressed. Nevertheless, Copernicus himself had admitted, as is shown in the relevant texts, that the Heliocentric System was first suggested by ancient Greeks and particularly by Aristarchos of Samos.

Claudius Ptolemy, in his *Great Mathematician Syntax*, states that Aristarchos believed in the Heliocentric System, which was proclaimed by the Pythagorean philosophers Iketas and Ekfantos, and that he rejected the theory of the Earth-centred (Geocentric) Solar System. Plutarchos, in his work *About the Favourites Amongst the Philosophers*, writes that Aristarchos "... places the sun among the non-moving stars and the Earth moving along the solar cycle". Also, Archimedes, in his work *Sand Reckoner* (*Psammites*), writes: "...Aristarchos of Samos ... because he supposed that the vacant stars and the Sun remain still, the Earth orbits the Sun on the periphery of a cycle that lay in the middle ...".

Aristarchos, combined the heliocentric argument with the Earth's rotation around its axis. From his works, only a short treatise survives, entitled *On the Sizes and distances of the Sun and the Moon* (Heath, 1913). Also, according to information given by Aetios, Aristarchos had also written other treatises, entitled *On Visions*, *On Eclipses* and *On Colours*.

Moreover, the Latin writer Vitruvius reports that Aristarchos had invented a device for measuring the height of the Sun above the horizon at any time of day (perhaps a concave hemispherical ruler). This device, which others consider as a sundial, was called 'skafion' (trough). It is also said that Aristarchos added the $1/1623$ of the day to the *Kallippos*'s calculation of the 365 days long year and that he observed the solstice of 280 BC.

Therefore, Aristarchos's contribution, in the proposed heliocentric system, has been effective and innovative, and one easily reaches the conclusion that *'the paternity of the heliocentric theory, originally and rightfully, belongs to Aristarchos'*. This, by no means implies that we should underestimate the work of the great Polish astronomer Copernicus. It should clearly be noted with emphasis, that the real personal contribution of Copernicus on this issue lays, on the fact that he introduced the geometric mechanism of the geocentric system of Ptolemy to the heliocentric system of Aristarchos. But it is obvious that the whole effort was in a wrong path, because the real difficulty, namely, the faith that the planets move uniformly on circular orbits, could not be overcome.

After all the above, the conclusion is *"that Aristarchos was the first to introduce the correct and accepted today heliocentric theory, and that he founded Astronomy on the logical reasoning"*.

Consequently, Copernicus is not the originator, but merely the renovator of the heliocentric theory of Aristarchos. But this is not sufficient to award to Copernicus the recognition and authorship of the Heliocentric Theory, even if we take into account all the objective difficulties of the time for the heliocentric worldview.

Therefore, it is our belief that justice should be done to the great astronomer Aristarchos of Samos, who first suggested the Heliocentric System. By so doing the historical truth will be restored..

For all the above reasons, on behalf of the Governing Council of the Hellenic Astronomical Society, I strongly support your proposal, that ATV-4 be named 'Aristarchos of Samos'.

Sincerely,



prof. Kanaris Tsinganos