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To: Prof. Nikolaos K. Spyrou
Professor of Astronomy
Aristoteleion University of Thessaloniki
Thessaloniki, Greece
ESA/PB-HME National Delegate of Greece

Dear Prof. Spyrou,

Thank you very much for your letter of 26th of March 2010 regarding the naming of the Automated Transfer Vehicle (A.T.V.) 4 of the European Space Agency as "Aristarchos of Samos".

I find your proposal very interesting and I fully support it, as indicated by the following arguments.

It is well known that the Aegean Archipelago and the adjacent to it Land of Ionia, was the birthplace of a great civilization, the Ionian Civilization, which, to a large extent, laid the foundations of current European and World Culture, as well as the basis of morality and knowledge in modern societies.

Also, as it is well known, the island of Samos is the birthplace of the philosopher Pythagoras, the father of the music, the numbers and the interpretation of the harmony of the universe. Samos is also the birthplace of the philosopher-astronomer-geometer-mathematician Aristarchos, who, according to ancient historical texts, advocated that the Earth and the other planets are in circular orbits around the stationary Sun. The treasures of these ancient texts,

with the theories of Aristarchos of Samos, were appropriated and adopted by the monk Copernicus who presented his theory of the Sun-centered (heliocentric) System, with no reference to the pioneering work of Aristarchos.

Aristarchos of Samos was a great philosopher, mathematician, geometer, and astronomer of the ancient world. The year of his birth has been estimated, by later writers, at about 310 B.C. and the year of his death around 230 B.C. He attended the Lyceum of Athens and it is likely that he was a pupil of Euclides. He was also a student of the peripatetic Straton, from Lampsakos. From 288 B.C. until 277 B.C. he lived and taught in Alexandria, Egypt.

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-centered (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 .....».
Archimedes, in his work "Sand Reckoner" (Psammitis), 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 ...». It is not known what reaction these teachings of Aristarchos caused to the Athenians, who regarded any such teaching as blasphemy, punishable with death. Plutarchos, however, states that a lawsuit was filed against Aristarchos on the basis of 'atheism'.

While Aristarchos believed that the movements of the Earth and the planets could be better explained if the hub was the Sun, not the Earth, he did not elaborate on the details of this theory, as Copernicus did 1800 years later, and he did not compose tables of planetary orbits for his geocentric system, as other ancient Greeks did. Copernicus, however, himself admits, as evidenced by known relevant texts, that the heliocentric system was first suggested by ancient Greeks and particularly by Aristarchos of Samos.

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 Abscesses of the Sun and the Moon" (published in Paris, 1810). Also, according to information given by the Byzantine writer 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 Kallipos'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, as the Cosmos 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 Copernicus, a really great Polish astronomer. It should clearly be noted with emphasis, that the real personal contribution of Copernicus on this issue lays, essentially, 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 Aristarchus 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 the ancient Greek Ionian philosophers should be credited, and 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, and, at the same time, the true contribution of Greece will be acknowledged, promoted and widely recognized.

For all the above reasons, I, on behalf of the *Greek National Committee for Astronomy,* strongly and enthusiastically support your proposal, that ATV-4 be named "Aristarchos of Samos".

Yours sincerely,

Prof. Christos Goudis
President of the Greek National Committee for Astronomy