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Lublin, Poland, 21. 08. 1991

Nobel Committee for Physics and Chemistry
The Royal Swedish Academy for Sciences,
Box 50005, S-104 05 Stockholm, Sweden

I am professor of physics at the M.Curie-Sklodowska University in Lublin, Poland. I was asked three times by the Nobel Committee to propose my candidates to nominate them for the award of the Nobel Prize:

a/ 1972 - I have proposed J.Bardeen, L.N.Cooper and J.R.Schrieffer; they received Nobel prize,
b/ 1986 - I have proposed G.Binning and H.Rohrer; they received Nobel Prize together with E.Ruska,
c/ 1991 - I have proposed V.Ginzburg, Aharonov and F.Bohm. Till now the names of the Nobel prize winners in physics for 1991 were not annouced.

For 1992 I was not asked to present my candidate /-s/ for the award of the Nobel Prize. But I would like to ask you to consider my candidate in space physics, the discipline where it is very difficult to find one or two persons with the achievements of the class proper for Nobel prize. I belive that I have such one physicist, namely Dr Michael A. Minovich living in Los Angeles, CA-USA.

I include separately my opinion on Dr M.A. Minovich's original achievements in the formulation and solution of the inertial /propulsionless/ flight to the distant planets of the Solar System /e.g. Grand Tour: Earth-Jupiter-Saturn-Uranus-Neptune or Earth - Jupiter - Saturn and Pluto/ a.s.o., the flights of Mariner 10, Pioneer 10 and 11, Voyger's 1 and 2, missions Galileo and Ulysses a.s.o./. All these missions exploit the trajectories discovered by Dr M.A. Minovich.
By discovery that by the gravitational influence it is possible an easy-to-reach nearby planet to catapult a free-fall space vehicle to a more distant planet. Such one trip would require substantial rocket propulsion and/or trip time using traditional direct-transfer trajectories. It was discovered that using a series of such trajectory-changing planetary encounters, it is theoreticallly possible for a free-fall vehicle to travel to many planets without necessity to transport onboard huge amount of the rocket fuel for propulsion.

More details you will find in the enclosed review.

Sincerely yours

M. Subotowicz

Prof. dr hab. Mieczysław Subotowicz

PS Excuse me that I send you my candidate's name without being asked for it.
In this way I would like to pay a tribute for the genuine and important discovery in astrodynamics of the American physicist.
I have written many scientific papers and several books in astronautics.

PROPOSAL for AWARD of the NOBEL PRIZE for PHYSICS for 1992 or LATER
to Dr Michael A. MINOVITCH

Short review of his most important results in astrodynamics

Dr Michael A. Minovitch formulated the first numerical solution to the unsolved Restricted Three-Body Problem /RTBP/ of celestial mechanics. Dr Michael A. Minovich started to solve this problem with the computer calculation in 1961 as a graduated mathematics and physics student from the University of California in Los Angeles /UCLA/ and as a temporary summer employee at the Jet Propulsion Laboratory /JPL/. The numerical solution of the RTBP of celestial mechanics was used to propose an essentially new method to propell the space vehicles and space probes through the Solar Planetary System without using reaction propulsion but exploiting only the gravitational fields of the celestial bodies and their proper position in space. The by Dr Minovich invented "gravity assisted" or "swing by" trajectories represented the essential propulsion breakthrough that opened the entire Solar Planetary System. to investigations by use even small, with chemical fuel initially propelled launch vehicles with interplanetary probes.

Thanks to this innovation of Dr Minovich were possible the realizations of the following various NASA gravity propelled missions: Mariner 10 /Earth-Venus-Mercury/, Pioneer 10 and 11, Voyager 1 and 2 /the Voyager 2 mission was the following: Earth, Jupiter - Saturn - Uranus - Neptune - interstellar space/, Galileo mission to Jupiter and Ulysses mission exploiting the field of Jupiter to the orbit in the plane perpendicular to the ecliptic plane. All these missions exploited the idea of the propulsion by the gravitational field of the planets and trajectories calculated by Dr M.A.Minovitch.

The activity of our civilisation connected with the space exploration is the result of the work of large teams and engagement of great rockets and great space Powers. It is difficult to find in our times the outstanding individual contribution of the individuals to the essential development of the conquer of space.

In the Dr Minovich's work /the solution of the RTBP of the celestial mechanics and the calculation of the "gravity assisted" trajectories of the space probes/ we have such one contribution.

I propose Dr Michael A. Minovitch for award of the Nobel prize for Physics for 1992 or later.

M. Subotowicz

Prof. dr hab. Mieczysław Subotowicz

Addresses

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Professor Mieczysław S u b o t o w i e z

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Nobel Committee form

1992
XXX

Michael A. Minovitch /or Minovich/

Dr of Physics

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The numerical solution of the unresolved Restricted Three-Body Problem /RTBP/ of celestial mechanics was used to propose an essentially new method to propell the space vehicles through the Solar Planetary System without using reaction propulsion but exploiting only the gravitational fields of the celestial bodies and their proper position in space /"gravity assisted trajectories"/.

Grounds for nomination:
See the enclosed short review of his most important results in astrodynamics.

First initial papers: M.A.Minovich:"A method for determining Interplanetary Free-Fall Reconnaissance Trajectories", JPL /Jet Propulsion Laboratory/, TM 312-130, August 23,1961,
2/ Dowling, R.L. et al., "The origin of Gravity-Propelled Interplanetary Space Travel", 41-st Congress of the International Astronautical Federation, Oct.6-12,1990, Dresden, Germany, Paper No. IAA-90-630,
3/ Dowling R.L. et al."Gravity propulsion research at UCLA and JPL, 1962 - 1964", paper presented to the 42-nd Congress of the International Astronautical Federation, Oct.5-11, 1991, Montreal, Canada, Paper No. IAA-91-677.

M. Subotowicz

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