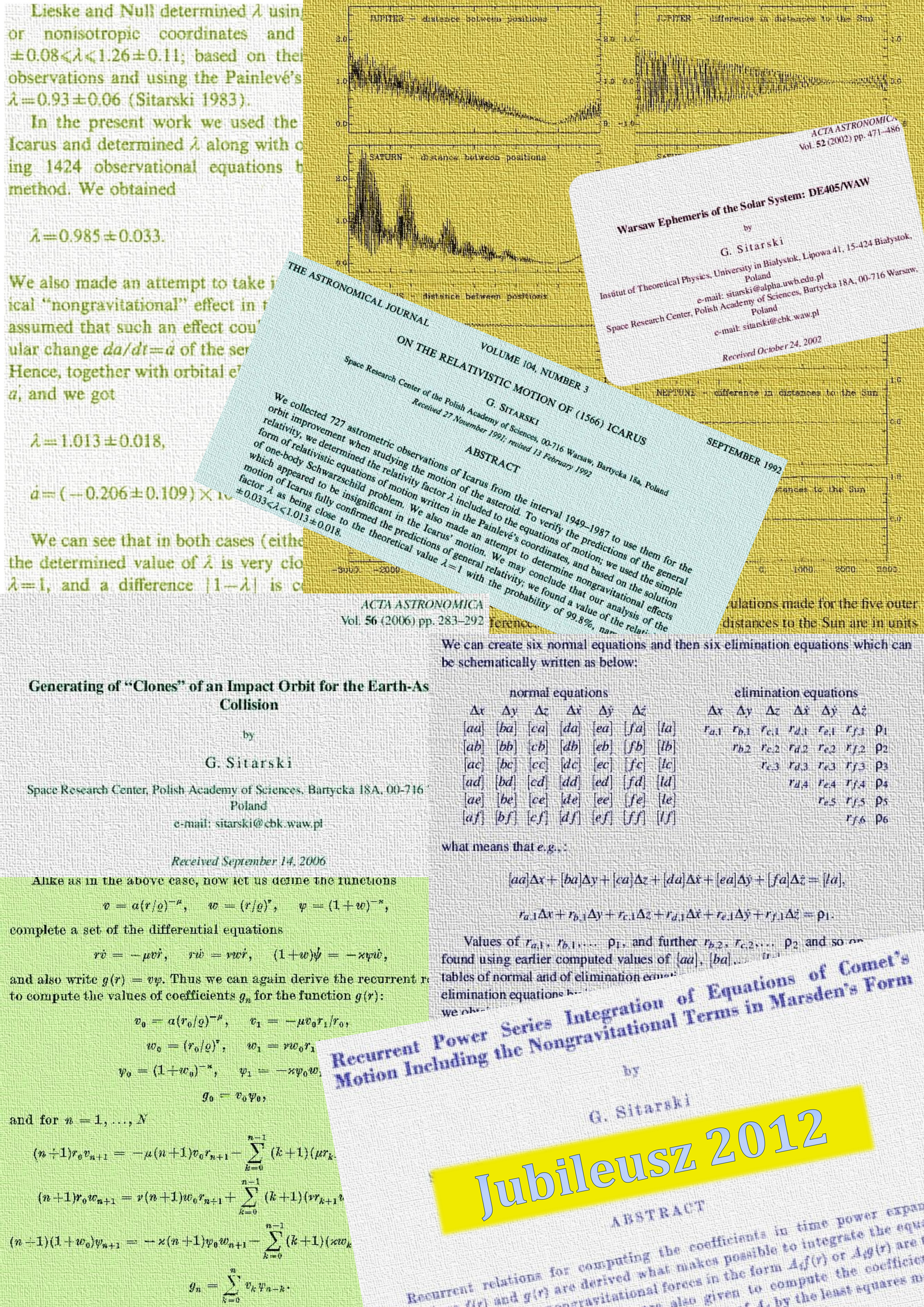

Lieske and Null determined λ using
or nonisotropic coordinates and
±0.08≤λ≤1.26±0.11; based on the
observations and using the Painlevé's
λ=0.93±0.06 (Sitarski 1983).
In the present work we used the
Icarus and determined λ along with
ing 1424 observational equations b
method. We obtained
λ=0.985±0.033.
We also made an attempt to take i
ical "nongravitational" effect in t
assumed that such an effect cou
ular change da/dt=ȧ of the ser
Hence, together with orbital el
a, and we got
λ=1.013±0.018,
ȧ=(−0.206±0.109)×10
We can see that in both cases (eithe
the determined value of λ is very clo
λ=1, and a difference |1−λ| is c
JUPITER — distance between positions
JUPITER — difference in distances to the Sun
SATURN — distance between positions
distance between positions
NEPTUNE — difference in distances to the Sun
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Warsaw Ephemeris of the Solar System: DE405/WAW
by
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THE ASTRONOMICAL JOURNAL VOLUME 104, NUMBER 3 SEPTEMBER 1992
ON THE RELATIVISTIC MOTION OF (1566) ICARUS
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Received 27 November 1991; revised 13 February 1992
ABSTRACT
We collected 727 astrometric observations of Icarus from the interval 1949–1987 to use them for the orbit improvement when studying the motion of the asteroid. To verify the predictions of the general relativity, we determined the relativity factor λ included to the equations of motion; we used the simple form of relativistic equations of motion written in the Painlevé's coordinates, and based on the solution of one-body Schwarzschild problem. We also made an attempt to determine nongravitational effects which appeared to be insignificant in the Icarus' motion. We may conclude that our analysis of the motion of Icarus fully confirmed the predictions of general relativity; we found a value of the relati factor λ as being close to the theoretical value λ=1 with the probability of 99.8%, nam ±0.033<λ<1.013±0.018.
ulations made for the five outer
distances to the Sun are in units
ACTA ASTRONOMICA
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Generating of "Clones" of an Impact Orbit for the Earth-As
Collision
by
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We can create six normal equations and then six elimination equations which can be schematically written as below:
normal equations
elimination equations
what means that e.g.:
[aa]Δx+[ba]Δy+[ca]Δz+[da]Δẋ+[ea]Δẏ+[fa]Δż=[la],
r_{a.1}Δx+r_{b.1}Δy+r_{c.1}Δz+r_{d.1}Δẋ+r_{e.1}Δẏ+r_{f.1}Δż=ρ1.
Values of r_{a.1}, r_{b.1}, ... ρ1, and further r_{b.2}, r_{c.2}, ... ρ2 and so on
found using earlier computed values of [aa], [ba]
tables of normal and of elimination equ
elimination equations
Alike as in the above case, now let us define the functions
v = a(r/ϱ)^{−μ}, w = (r/ϱ)^ν, ψ = (1+w)^{−κ},
complete a set of the differential equations
rv̇ = −μvṙ, rẇ = νwṙ, (1+w)ψ̇ = −κψẇ,
and also write g(r) = vψ. Thus we can again derive the recurrent r
to compute the values of coefficients g_n for the function g(r):
and for n = 1, ..., N
Recurrent Power Series Integration of Equations of Comet's Motion Including the Nongravitational Terms in Marsden's Form
by
G. Sitarski
Jubileusz 2012
ABSTRACT
Recurrent relations for computing the coefficients in time power expa
f(r) and g(r) are derived what makes possible to integrate the equ
nongravitational forces in the form A₁f(r) or A₂g(r) are
also given to compute the coefficie
by the least squares m