METEOR NEWS

By Peter M. Millman

National Research Council, Ottawa, Ontario

A Report on Meteor Terminology

At the X General Assembly of the International Astronomical Union in Moscow, U.S.S.R., held during the period August 12–20, 1958, Sub-Commission 22B was formed to deal with the problem of a standard terminology for use in meteoric astronomy. At the XI General Assembly, held in Berkeley, California, U.S.A., August 15–24, 1961, the definitions for twenty basic terms were approved and the equivalent words for use in four different languages were recommended.

An attempt was made to keep these definitions simple and straightforward and to adhere as far as possible to the accepted usage in each of the four languages, English, French, Russian, and German. Words like "train" and "trail" were not defined with separate meanings in English, since only one Russian word stands for both. Where a term is needed for the photographic image of a meteor path it is suggested that "track" be used. The approved definitions are given in Table I and the recommended terms for use with these definitions are listed in Table II. To find the "absolute magnitude" of a meteor the "apparent magnitude" must be corrected for distance, to a standard of 100 km., and for absorption, to the standard absorption of one vertical atmosphere. Terms such as "visual meteor", "photographic meteor", "telescopic meteor", etc., should refer only to the method of observation and should not indicate ranges of brightness. The following standard notation is suggested for meteor velocities:

V_a (instrumental velocity):	the uncorrected velocity as recorded by an instrument.
V_o (observed velocity):	V_a corrected for instrumental errors of all types.
V_∞ (no-atmosphere velocity):	V_o corrected for deceleration in the earth's atmosphere.
V_g (geocentric velocity):	V_∞ corrected for rotation of the earth and the gravitational force (zenith attraction) of the earth.

V_h (heliocentric velocity): V_g combined with the vector of the earth's motion around the sun to give the motion of the meteoric particle relative to the sun.

Sub-Commission 22B has now been reorganized as Committee B of Commission 22 of the I.A.U. and it is expected that in the future additional terms will be added to the initial list. The new chairman of this Committee B is Dr. L. Jacchia, Smithsonian Astrophysical Observatory, 60 Garden Street, Cambridge 38, Massachusetts, U.S.A. He will welcome further suggestions from those active in meteor research.

TABLE I

BASIC DEFINITIONS IN METEORIC ASTRONOMY

A. *meteor*—in particular, the light phenomenon which results from the entry into the earth's atmosphere of a solid particle from space; more generally, as a noun or an adjective, any physical object or phenomenon associated with such an event.

B. *meteoroid*—a solid object moving in interplanetary space, of a size considerably smaller than an asteroid and considerably larger than an atom or molecule.

C. *meteorite*—any object defined under B which has reached the surface of the earth without being completely vapourized.

D. *meteoric*—the adjectival form pertaining to definitions A and B.

E. *meteoritic*—the adjectival form pertaining to definition C.

F. *fireball*—a bright meteor with luminosity which equals or exceeds that of the brightest planets.

G. *micrometeorite*—a very small meteorite or meteoritic particle with a diameter in general less than a millimetre.

H. *dust*—when used with D or E—finely divided solid matter, with particle sizes in general smaller than micrometeorites.

J. *absolute magnitude*—the stellar magnitude any meteor would have if placed in the observer's zenith at a height of 100 km.

K. *trajectory*—the line of motion of the meteor relative to the earth, considered in three dimensions.

L. *path*—the projection of the trajectory on the celestial sphere, as seen by the observer.

M. *train*—anything (such as light or ionization) left along the trajectory of the meteor after the head of the meteor has passed.

N. *persistent*—an adjectival form for use with M indicating durations of some appreciable length.

O. *wake*—train phenomena of very short duration, in general much less than a second.

P. *radiant*—the point where the backward projection of the meteor trajectory intersects the celestial sphere.

Q. *earth-point*—the point where the forward, straight-line projection of the meteor trajectory intersects the surface of the earth.

R. *zenith attraction*—the effect of the earth's gravity on a meteoric body, increasing the velocity and moving the radiant towards the zenith.

S. *orbit*—the line of motion of a meteoric body when plotted with reference to the sun as origin of co-ordinates.

T. *shower*—for use with A or D—a number of meteors with approximately parallel trajectories.

U. *stream*—for use with A or D—a group of meteoric bodies with nearly identical orbits.

TABLE II

TERMS RECOMMENDED FOR USE IN CONNECTION WITH THE DEFINITIONS IN TABLE I

	English	*French*	*Russian*	*German*
A.	meteor shooting star	météore étoile filante	метеор падающая звезда	Meteor Sternschnuppe
B.	meteoric body meteoric particle meteoroid	corps météorique particule météorique	метеорное тело метеорная частица	Meteorkörper Meteorteilchen
C.	meteorite	météorite	метеорит	Meteorit
D.	meteoric	météorique	метеорный	meteorisch Meteor-
E.	meteoritic	météoritique	метеоритный	meteoritisch
F.	bolide fireball	bolide	болид	Feuerkugel
G.	micrometeorite	micrométéorite	микрометеорит	Mikrometeorit
H.	dust	poussière	пыль	Staub
J.	absolute magnitude	magnitude absolue	абсолютная величина	Absolutgrösse
K.	trajectory	trajectoire	траектория	Trajektorie atmosphärische Bahn
L.	path	trajectoire apparente	путь	Bahnspur scheinbare Bahn
M.	train	traînée	след	Schweif
N.	persistent enduring	persistant	длительный долговременный	andauernd
O.	wake	sillage	хвост кратковременный след	Schweifansatz
P.	radiant	radiant	радиант	Radiant Ausstrahlungspunkt
Q.	earth-point	point terrestre	земная точка	Erdpunkt
R.	zenith attraction	attraction zénithale	зенитное притяжение	Zenitverschiebung Zenitattraktion
S.	orbit	orbite	орбита	Bahn
T.	shower	averse	поток дождь	Schauer
U.	stream	essaim courant	рой	Strom