



**Flemish-born Calvinist Minister,
geographer, astronomer,
cartographer (1552-1622).**

Took the initiative for the first
Dutch “Schipvaert” to the Indies
1595-1597, led by Captains
Frederick de Houtman and Dirk
Janszoon Keijzer.



Before departing to the Indies (1595) the sailors were carefully instructed by Plancius in geography and astronomical observing techniques

Oldest surviving celestial globe, 1600, by Jodocus Hondius (1563-1612), showing the 12 new constellations, introduced by Plancius, on the basis of the precise measurements of the positions of 136 out of the 150 Southern stars brighter than 5th magnitude by Frederick de Houtman and Dirk Janszoon Keyzer, 1595-1597, (Amsterdam, Maritime Museum).

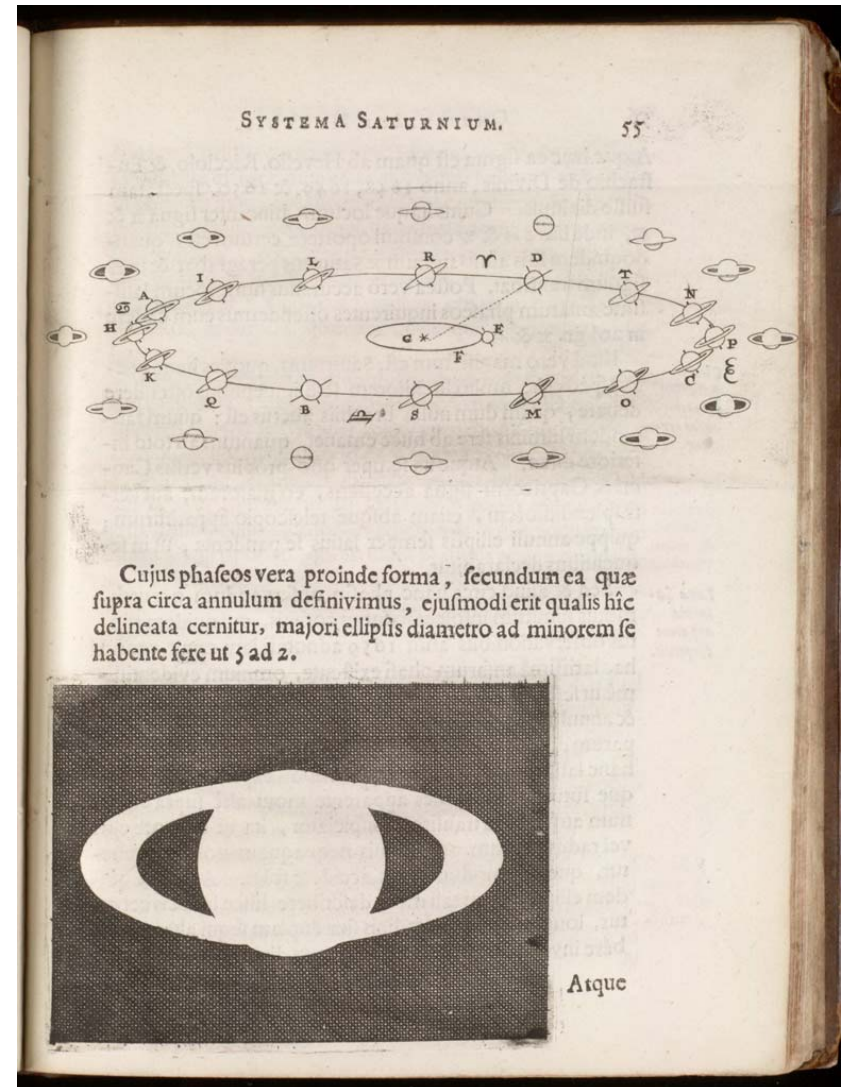


Some of the new constellations had “maritime” names, such as: Vela (the sail), Octans, Triangulum Australis, others animal names: Apis (the Bee), Chamelion, Camelopardus, Pavo (Peacock).



Christiaan Huygens (1629-1695)

In 1672 first president Academie
Française

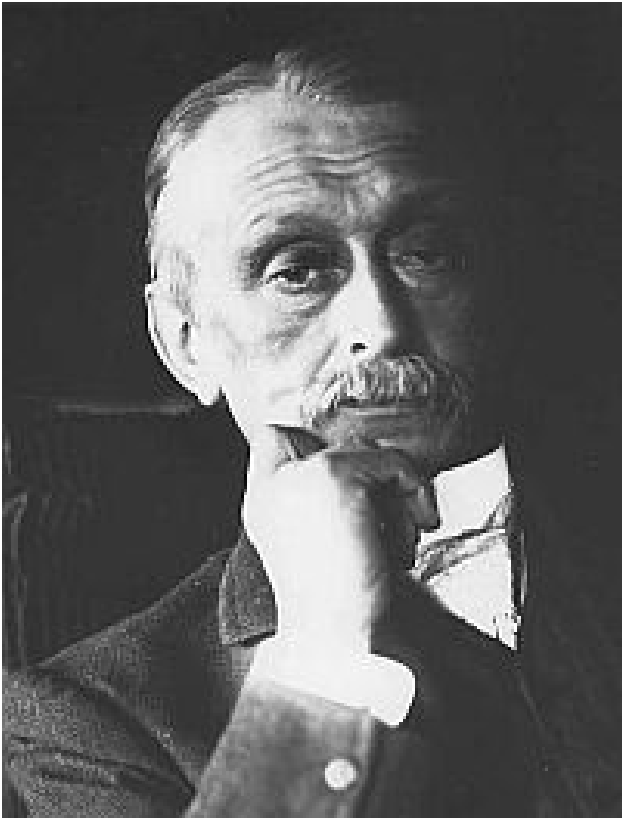


1656: Discovered Saturn's rings
and its moon Titan

1659: discovered formula for
centrifugal(-petal) acceleration



Lorentz (1853-1928) and van der Waals (1837-1923) were appointed in Leiden (1878) and Amsterdam (1877), respectively, as a result of the new university law of 1876, which was aimed at promoting education in the sciences. Lorentz would later play an important role in getting de Sitter appointed as director of Leiden Observatory in 1918.

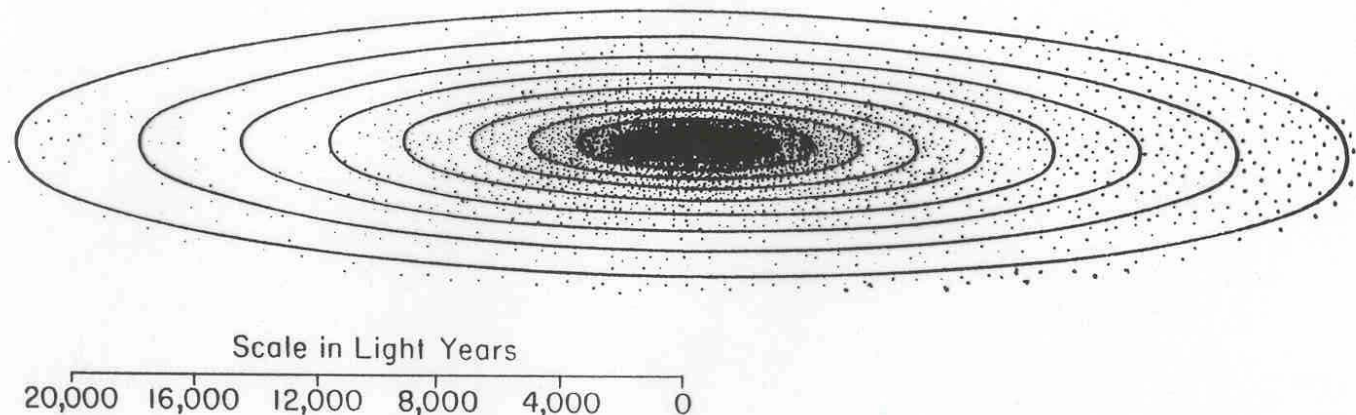


The “father” of statistical and galactic astronomy, appointed as professor of astronomy in Groningen in 1878.

Measured the positions of almost 500 000 southern stars down to magnitude 9.5 with accuracy 1-2”. Remeasurement at a second Epoche produced an enormous data base for proper motions from which he derived statistical distances of stellar groups and discovered his two “star streams”.

J.C. Kapteyn (1851-1921)

The Kapteyn Universe. (1920)





Pieter Zeeman (1865-1949)



George Ellery Hale (1868-1938)



Five friends in Leiden in 1923

*Einstein, Ehrenfest, de Sitter,
Eddington and Lorentz.*

14. IV. 12.

Lieber Dr. Litter!

Hoffentlich bekommt Ihnen die Reise dort recht gut, sodass Sie bald wieder in Ordnung sind. Mir geht es erheblich besser, dank guter Pflege. Unserer Meinungsverschiedenheit, die ja sozusagen nur eine Differenz des Glaubens ist, dürfen wir nicht allzuweit Zerstreuung widmen, da diese nicht fruchtbar angewendet wäre. Wir sollen die Möglichkeiten sehen, ohne zu wünschen. Selbstverständlich können Sie meine Terminierung gebieten, vorausgesetzt, dass meine Redaktion nicht zu verschommen und ungenau war. Dies können Sie ja selbst beurteilen.

Die Bemerkung über die von Ihnen in Betracht gezogene Mannigfaltigkeitsbest

$$ds^2 = \frac{\sum dx_i^2}{\sum x_i^2}.$$

wann das singuläre Verhalten im Unendlichen nur ein scheinbares, durch die Koordinatenwahl verursachtes, wäre, habe ich noch nicht begriffen. Aber hierüber werde ich durch Ihre neue Abhandlung aufgeklärt werden.

Es bleibt jedenfalls das allgemeine Relativitätspostulat gestattet die Auflegung des Gliedes $\Lambda g_{\mu\nu}$ in den Feldgleichungen. Es



Postkarte

wird wohl doch einmal unsere thutäudliche Kenntnis von der Konstitution des fixstern-Himmels, von den scheinbaren Bewegungen der fix-Sterne und von der Lage der Spektrallinien in Funktion des Abstandes von uns so weit sein, dass die Frage, ob Λ verschwindet, oder nicht, empirisch wird entschieden werden können. Überzeugung ist eine gute Triebfeder, aber eine schlechte Richtschnur!

Herzliche Grüße von Ihnen.

A. Einstein.

Prof. Dr. Dr. Litter

Sanatorium Dörmersdorf

Dörmersdorf (Holland)

Abt. d. Astronomie
Willebrandstr. 13
Berlin.

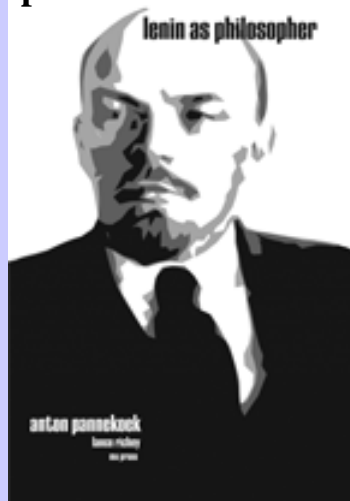


E. Hertzsprung
(1873-1967)



A. Pannekoek (1873-1960): de Sitter's
“problem”: Astronomer and Marxist

31. Anton Pannekoek. *Lenin as Philosopher: A Critical Examination of the Philosophical Basis of Leninism*. Revised Edition. Edited, annotated, and with an Introduction by Lance Byron Richey. ISBN 0-87462-654-4. ©2003. Paperbound. Index. 177 Pp. \$20



First published in 1938 by a leader of the Council Communism movement, Anton Pannekoek's *Lenin as philosopher* offers a classic left-wing interpretation and critique of Lenin's philosophical accomplishment and its relationship to the development of Leninism as perhaps the dominant political theory of the twentieth century. Providing a detailed discussion of the philosophical background to the Machist controversy which occasioned Lenin's *Materialism and Empirio criticism*, Pannekoek's study still stands as one of the most forceful and politically astute discussions of the topic available. Published here for the first time in an annotated and scholarly edition, this masterpiece of Marxist criticism is accompanied by a lengthy new introduction expanding and assessing Pannekoek's discussion and arguing for the continuing relevance of Lenin's thought for Marxism in the new millennium.

PLATE V



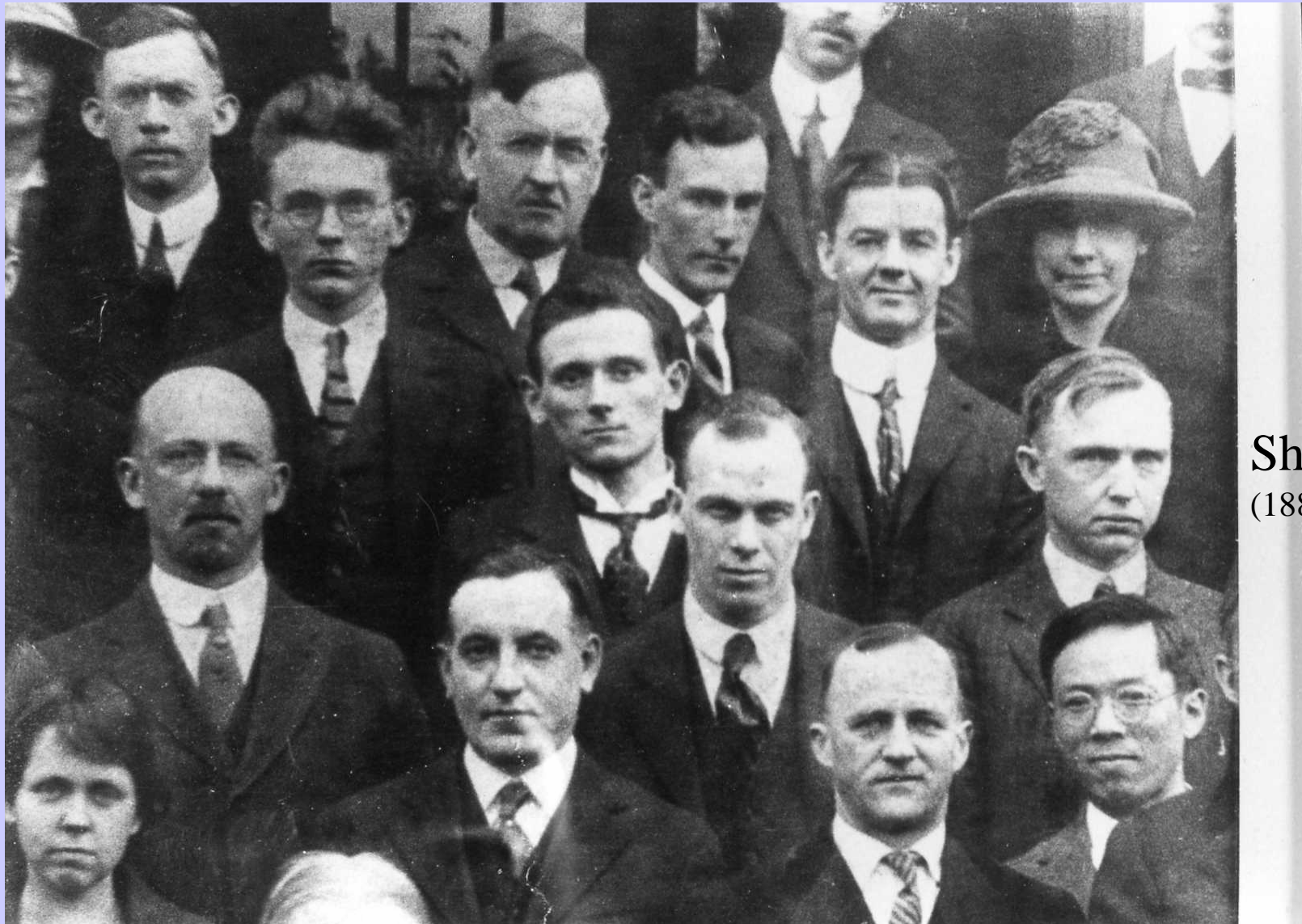
THIRTY-FIRST MEETING OF THE AMERICAN ASTRONOMICAL SOCIETY, VASSAR COLLEGE, DECEMBER 27, 1923.

Luyten(24jr), van de Kamp(22) and Oort(23)

(1899 –1994)

(1901- 1995)

(1900-1992)



Shapley,
(1885-1972)



Bart Bok (Harvard), Oort (Leiden) and vd Kamp (Swarthmore College) at opening of Mac Donald Observatory, Texas, in 1939.

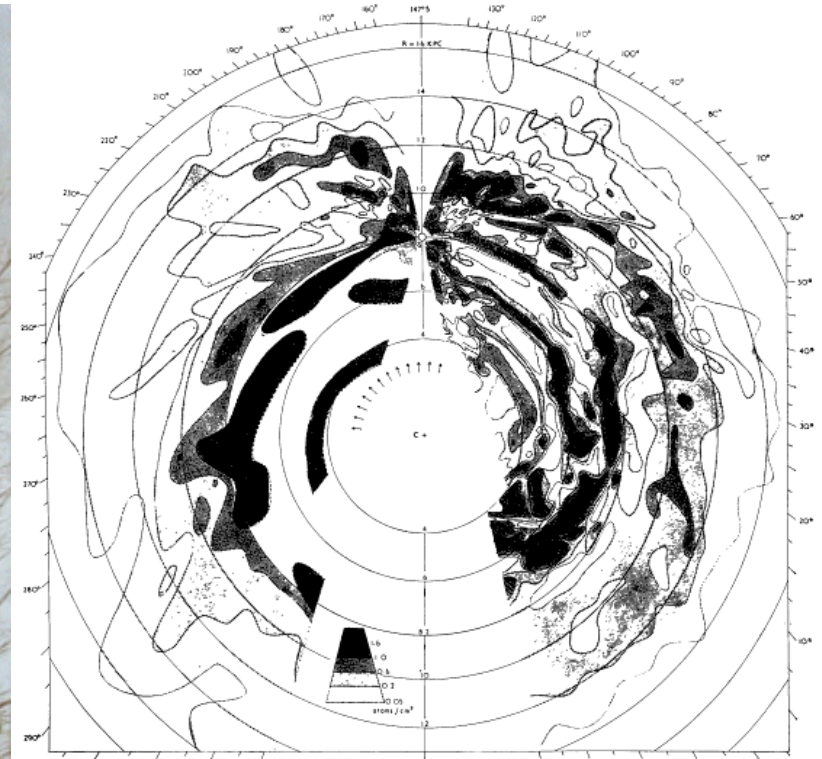


M. Minnaert (1893-1970),
Van Hulst's Utrecht
thesis advisor, was in
concentration camp
1942-1944



Van de Hulst (1918-2000) and Oort in the
sixties.

In 1944 v.d. Hulst predicted the HI 21-cm line



21cm hydrogen map of the Galaxy
(Oort, Kerr and Westerhout, 1958)

Wurzburg “Riese” Radar Antenna, 7.5 m diameter (3.75 MHz, 80 km range, 0.2 degrees resolution; for Flak). Used for first detection of HI, 21 cm line (1951) and first mapping (1953/4) of the spiral arms of the galaxy.

Detection in 1951 independently by Ewen and Purcell (Harvard), Kerr (Sidney) and Muller, Oort and van de Hulst (Netherlands).

*Westerhout (r), director of US Naval Obs.
with J. Weber and L.-H. Laster*





**Westerbork Synthesis
Radio Telescope (1970)
[“Oort’s Dream”],
for 10 years the world’s
largest radio telescope.
Produced two directors
of the Very Large Array
(Ron Ekers and
Miller Goss).**





A. Blaauw (born 1914) and L. Woltjer (born 1930) were the second and 3rd Directors General of the European Southern Observatory (1970-1975 and 1975-1988, respectively). Woltjer took the initiative to build the Very Large Telescope and expanded ESO's membership with Switzerland and Italy. Van der Laan and Giacconi completed its design and construction.



Oort's
Second dream:
The ESO (Chile)

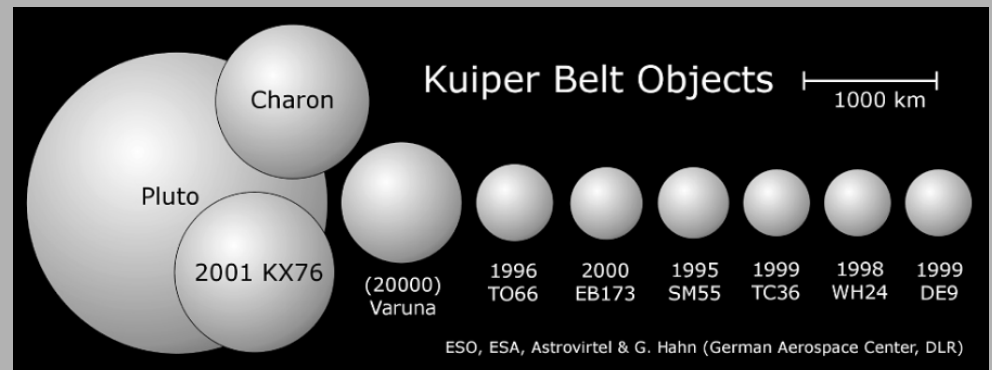
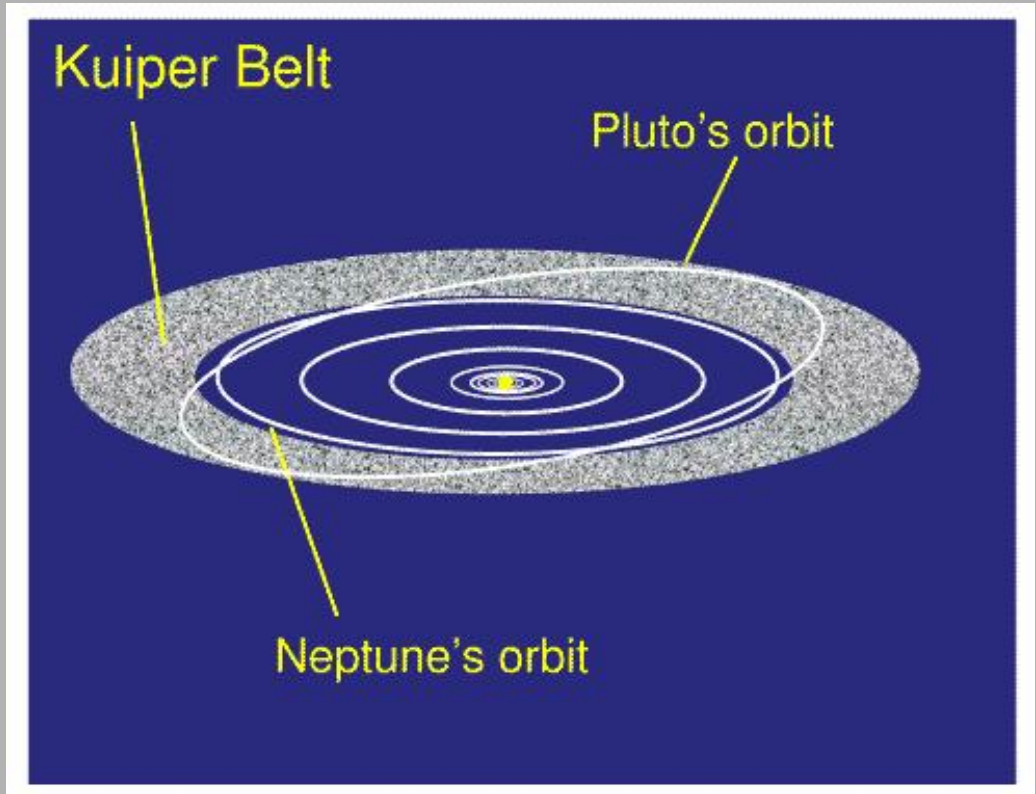
The Very Large Telescope: four 8.2 m telescopes



Gerard Pieter Kuiper
1905-1973



1944, discovered CH₄ atm. of
Titan (5150 km), pressure 1 bar



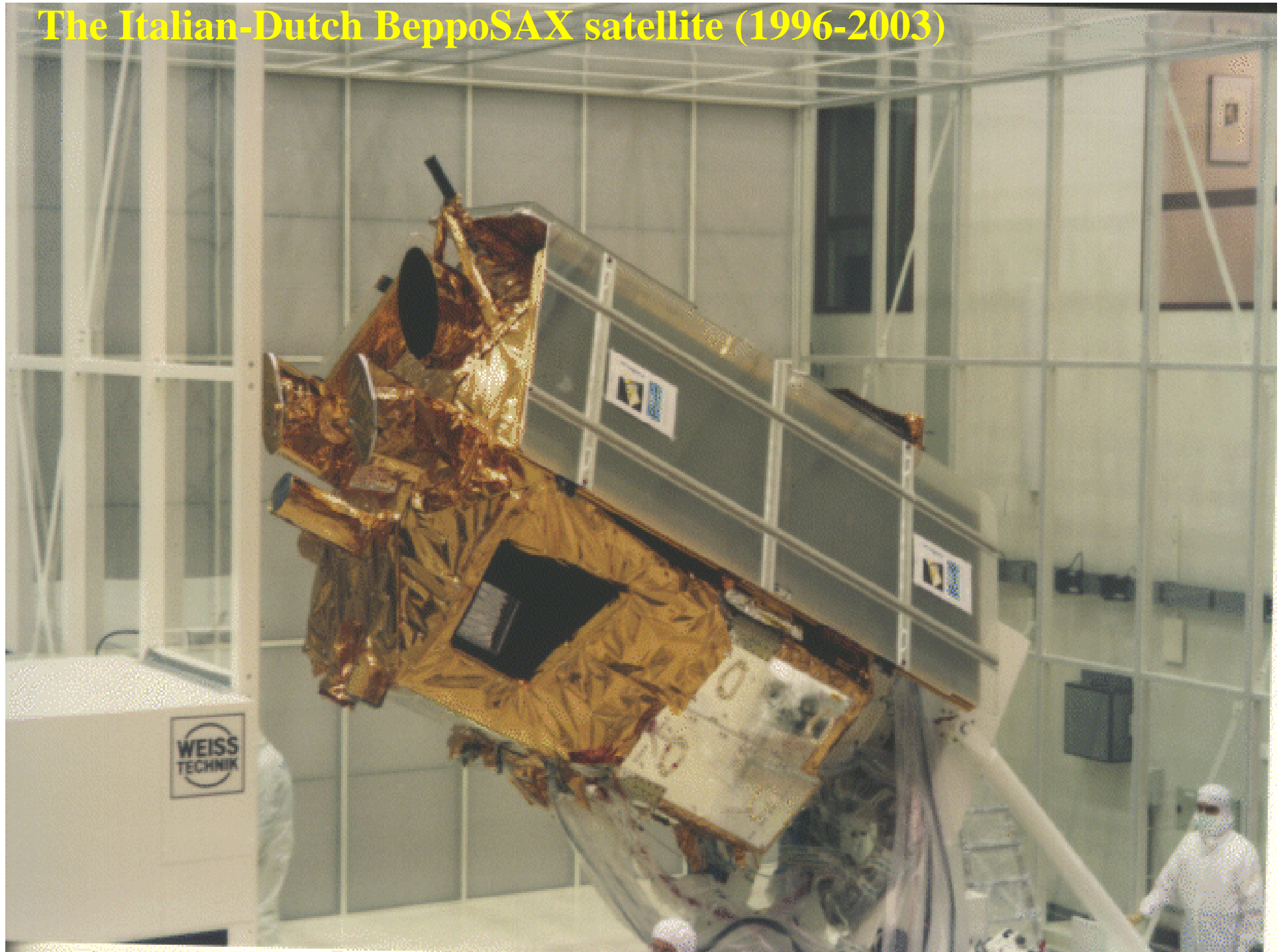
Relative Sizes of Large Kuiper Belt Objects

ESO PR Photo 27b/01 (23 August 2001)

© European Southern Observatory



The Italian-Dutch BeppoSAX satellite (1996-2003)

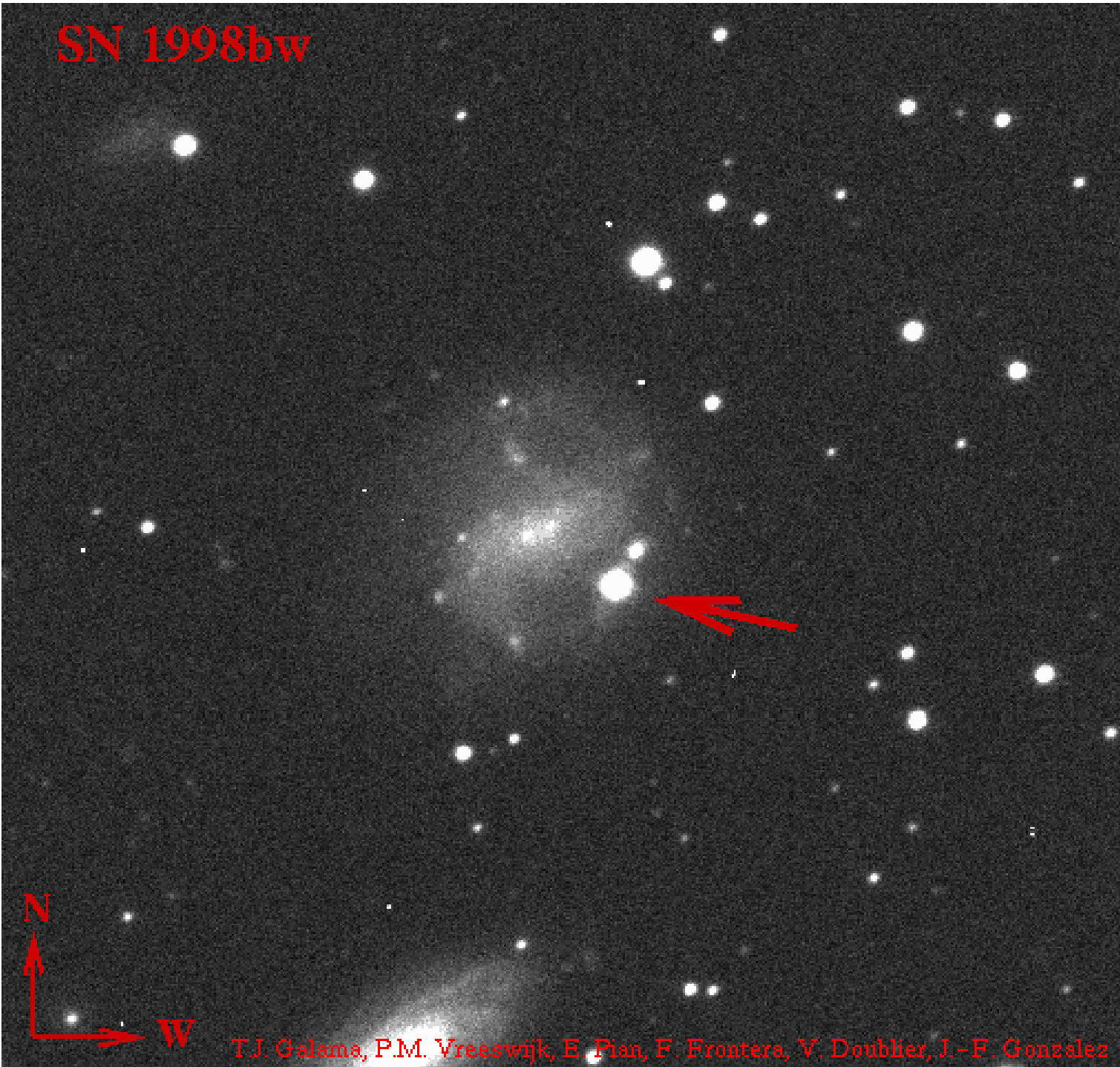


SN 1998bw

**Discovery
Of first GRB-
Supernova
association:**

**GRB980425/
SN1998bw**

*(Galama,
Vreeswijk,
vanParadijs,
et al., Nature
1998)*



T.J. Galama, P.M. Vreeswijk, E. Pian, F. Frontera, V. Doublier, J.-F. Gonzalez