

Нобелівська премія з хімії 2011

The Nobel Prize in Chemistry 2011



KUNGL.
VETENSKAPSAKADEMIEN
THE ROYAL SWEDISH ACADEMY OF SCIENCES

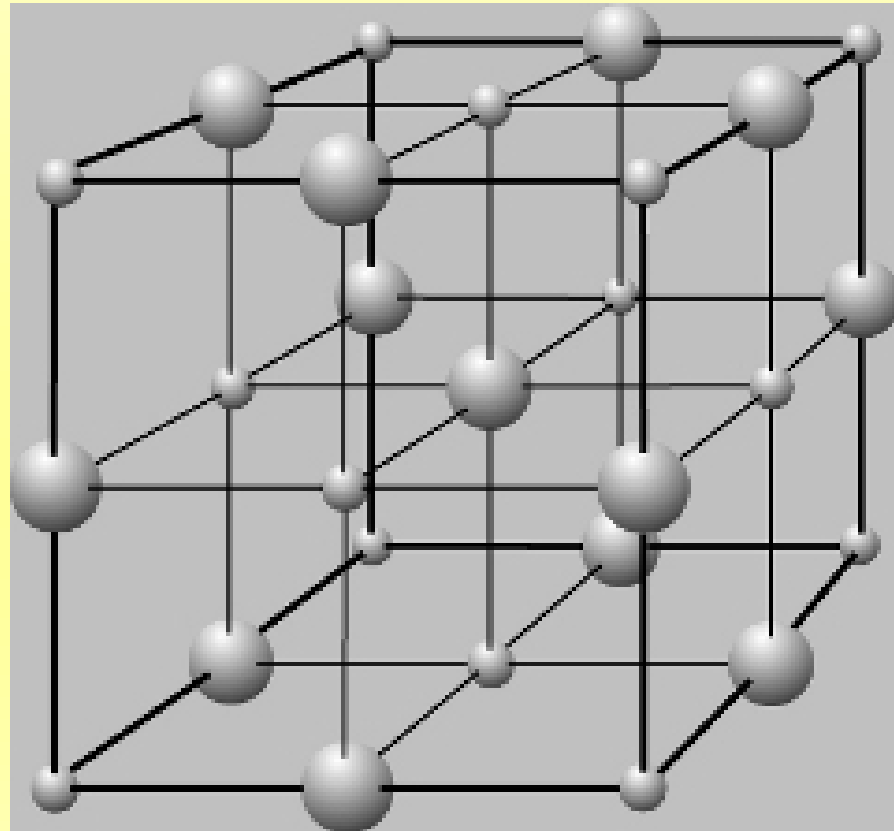


Дан Шехтман (Dan Shechtman)

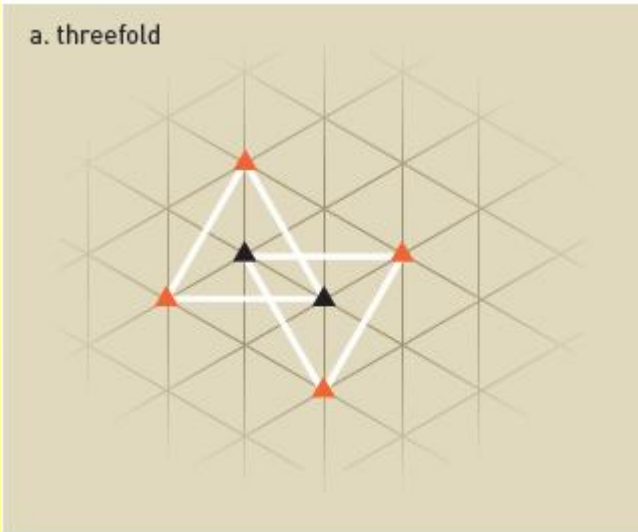
Technion - Israel Institute of Technology

“за відкриття квазікристалів”

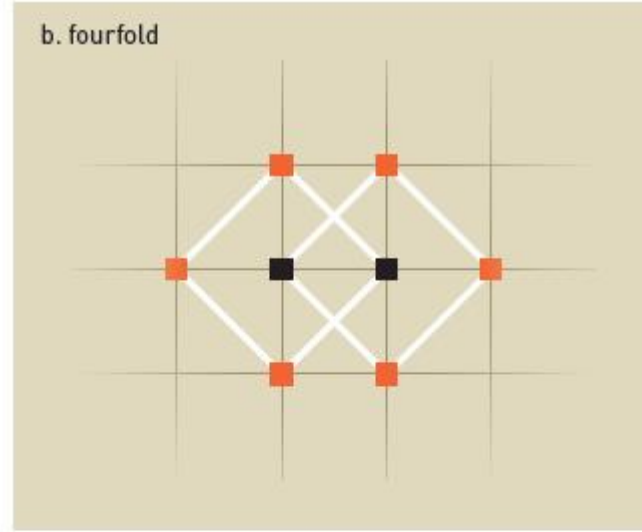
Семінар Тернопільського осередку УФТ, 23.11.11



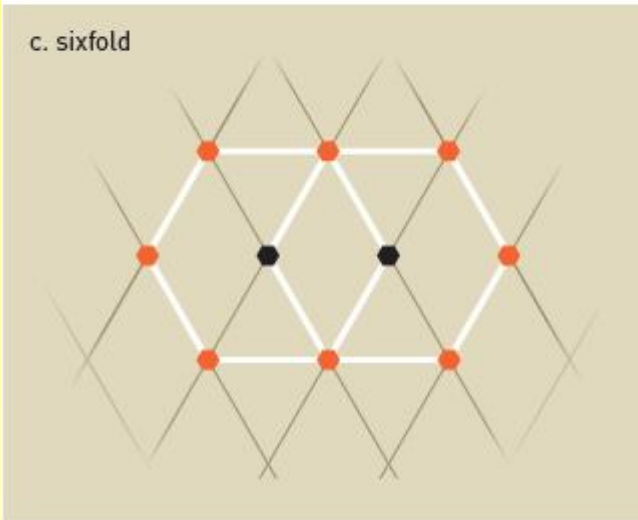
a. threefold



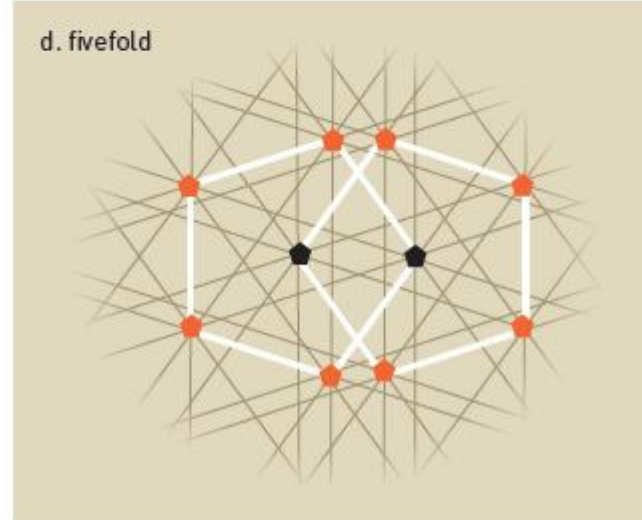
b. fourfold



c. sixfold



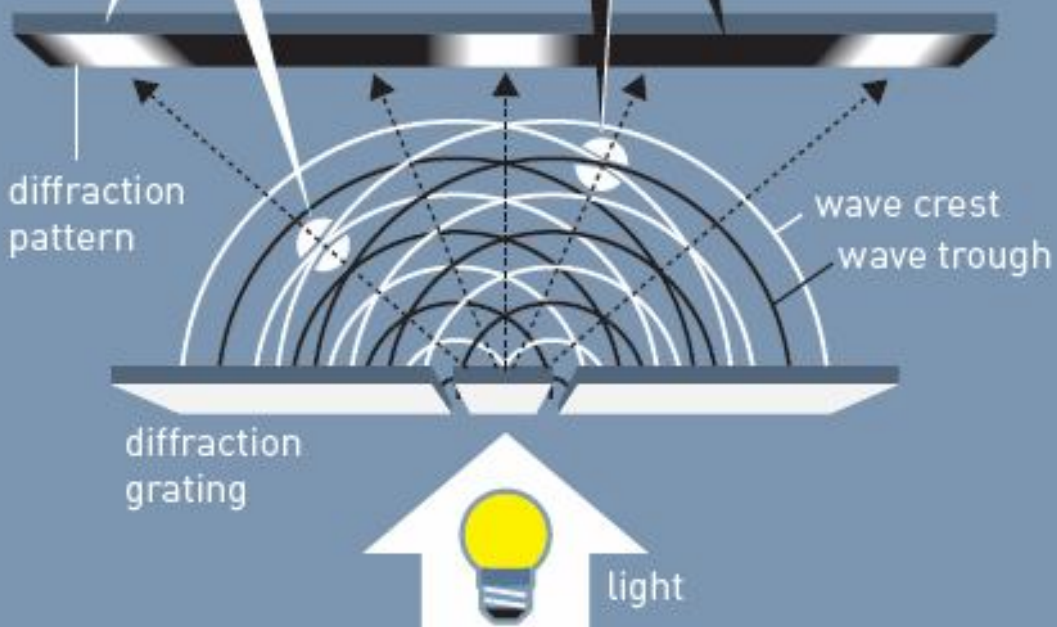
d. fivefold



BRIGHT DOTS will appear where wave crests intersect and reinforce each other.

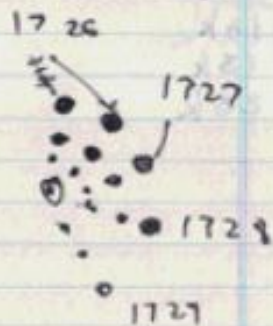


DARKNESS results where crests and troughs meet and neutralize each other.



April 8, 82

4581 - 8A



AL- 254/0 Mn

April 8, 82

- 1720 SAD
- 1721 SAD
- 1722 25k
- 1723 17k
- 1724 36k
- 1725 SAD (10 Fold ???)
- 1726 36k DF
- 1727 36k OF
- 1728 36k DF
- 1729 36k DF
- 1730 SAD 2300
- 1731 " 1600
- 1732 36k DF
- 1733 100k SF
- 1734 100k DF
- 1735 100k SF

**Metallic Phase with Long-Range Orientational Order and No
Translational Symmetry**

D. Shechtman and I. Blech

Department of Materials Engineering, Israel Institute of Technology—Technion, 3200 Haifa, Israel

and

Citing Articles (2,247)

*P. Gruber
Centre d'Etudes de Chimie Métallurgique, Centre National de la Recherche Scientifique, F-94400 Villetaneuse, France*

and

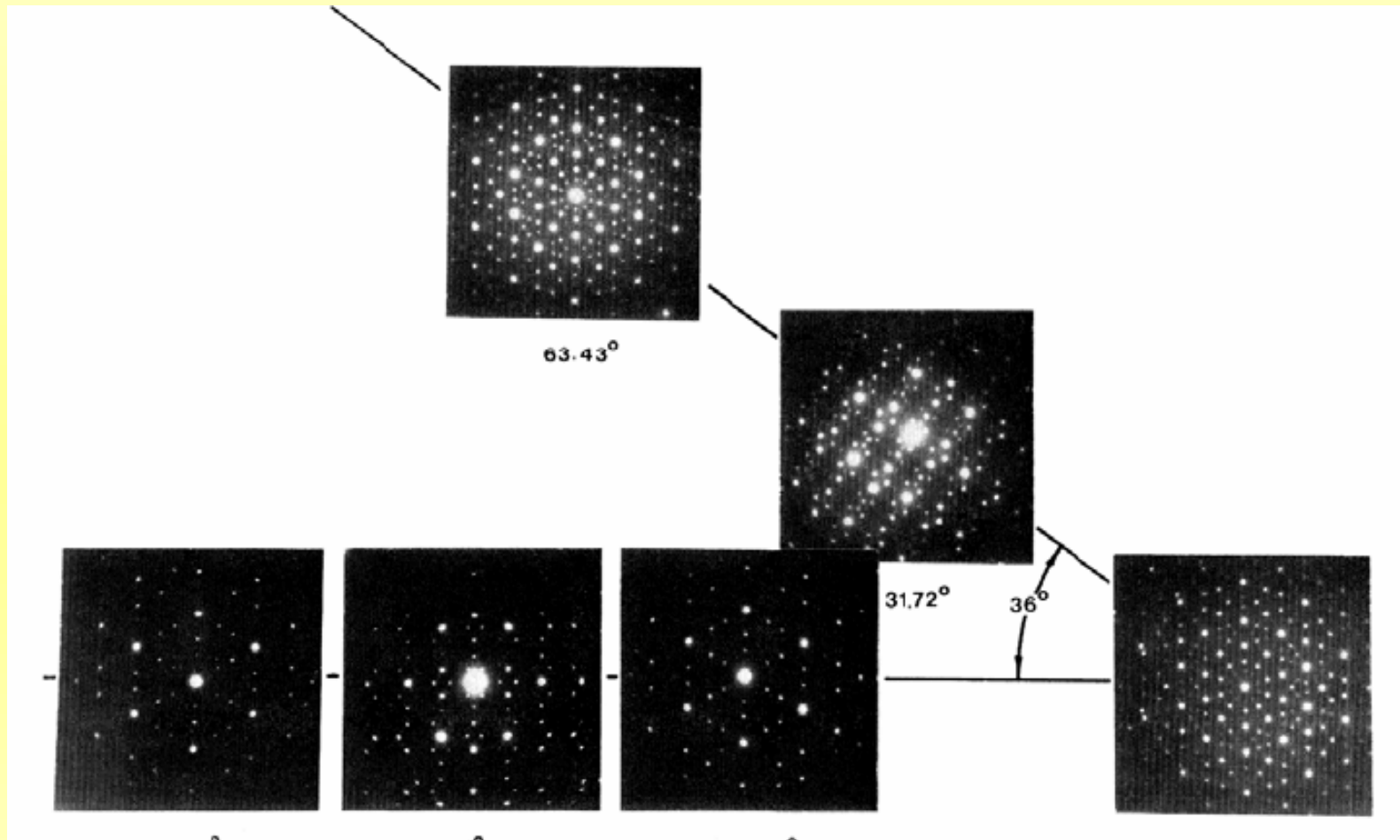
J. W. Cahn

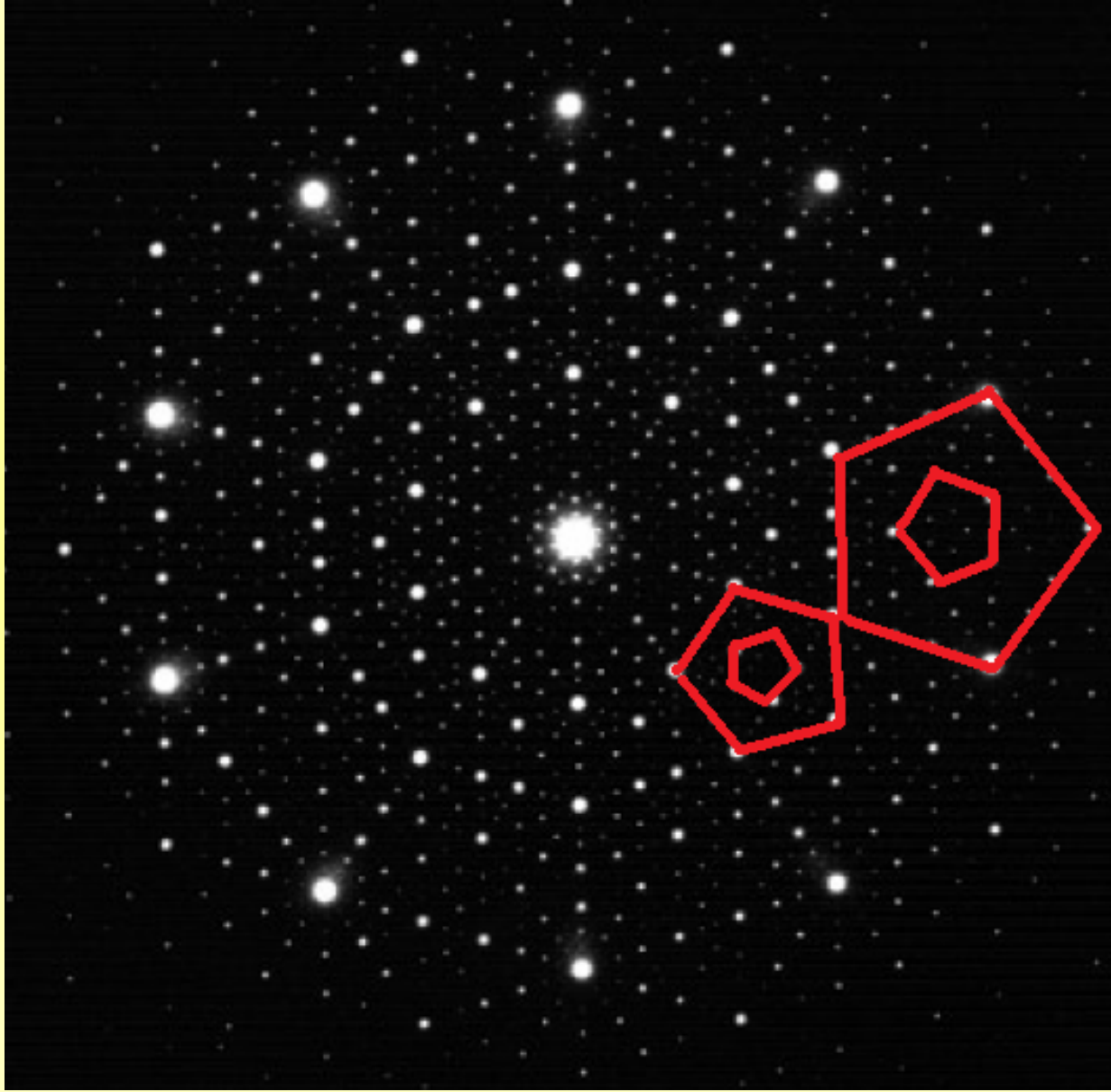
Center for Materials Science, National Bureau of Standards, Gaithersburg, Maryland 20760

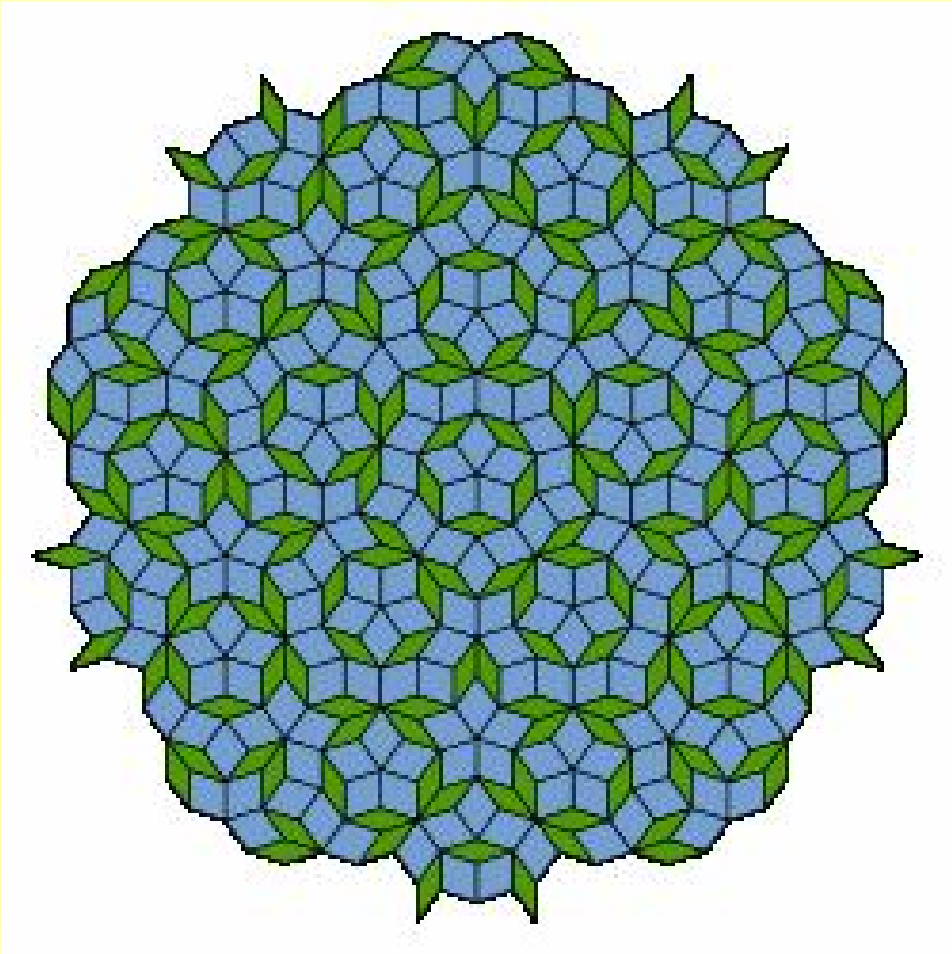
(Received 9 October 1984)

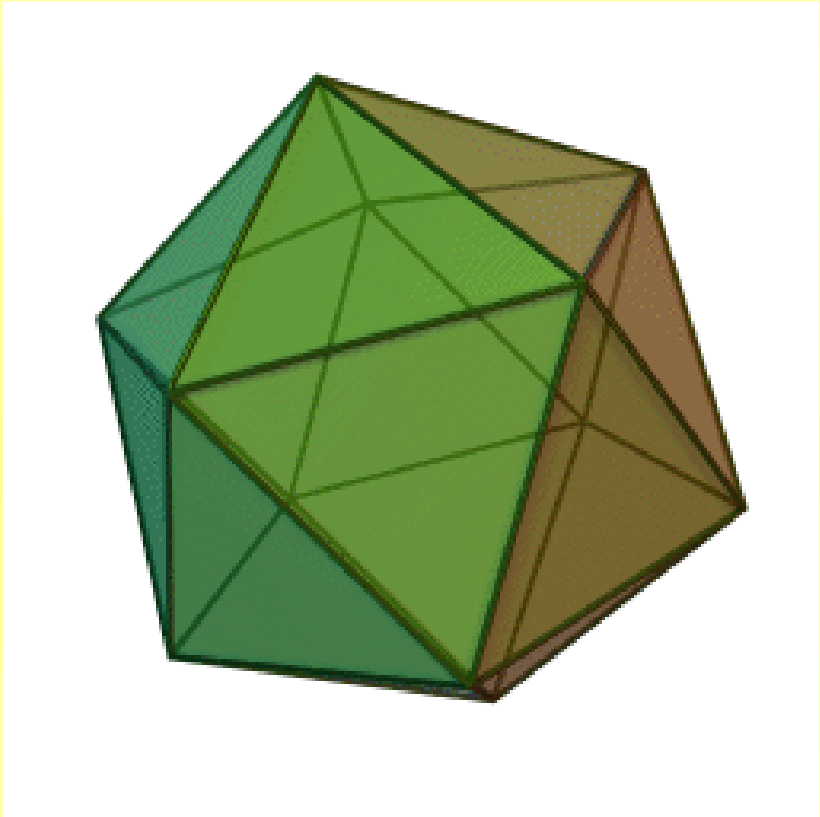
We have observed a metallic solid (Al-14-at.%-Mn) with long-range orientational order, but with icosahedral point group symmetry, which is inconsistent with lattice translations. Its diffraction spots are as sharp as those of crystals but cannot be indexed to any Bravais lattice. The solid is metastable and forms from the melt by a first-order transition.

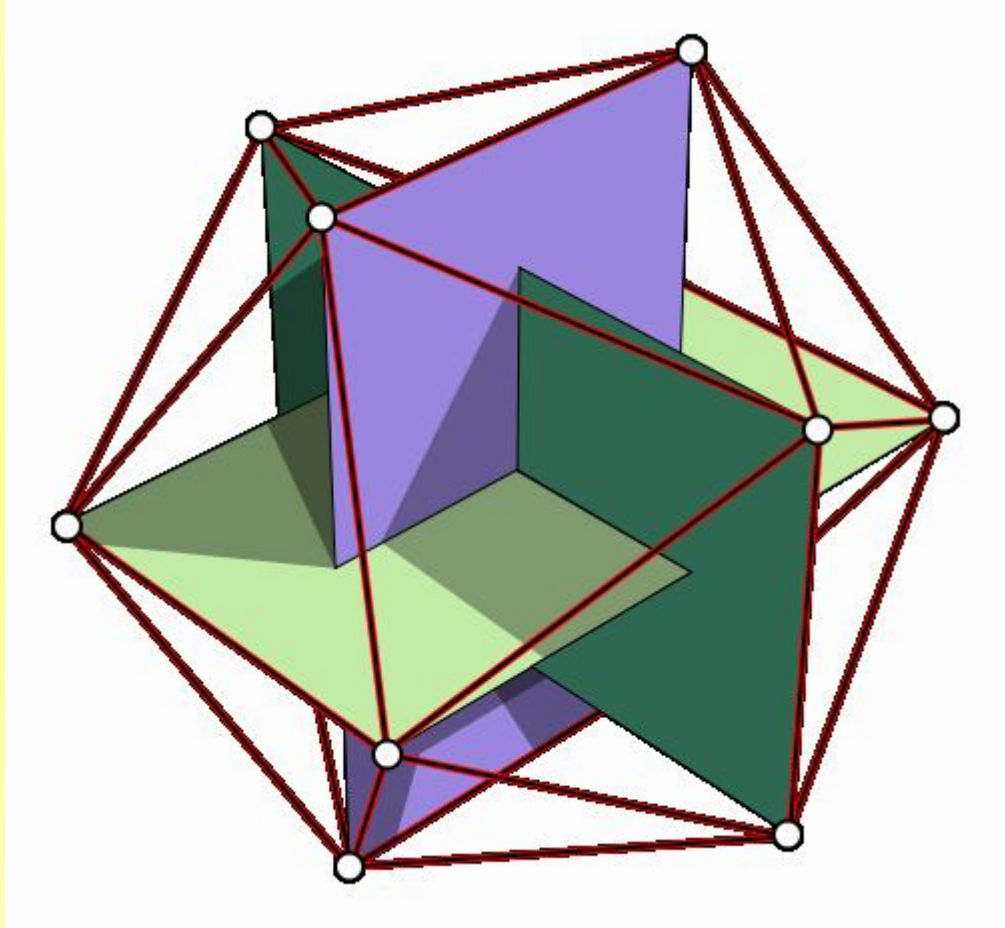
PACS numbers: 61.50.Em, 61.55.Hg, 64.70.Ew

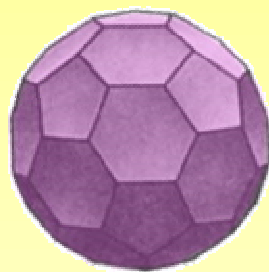
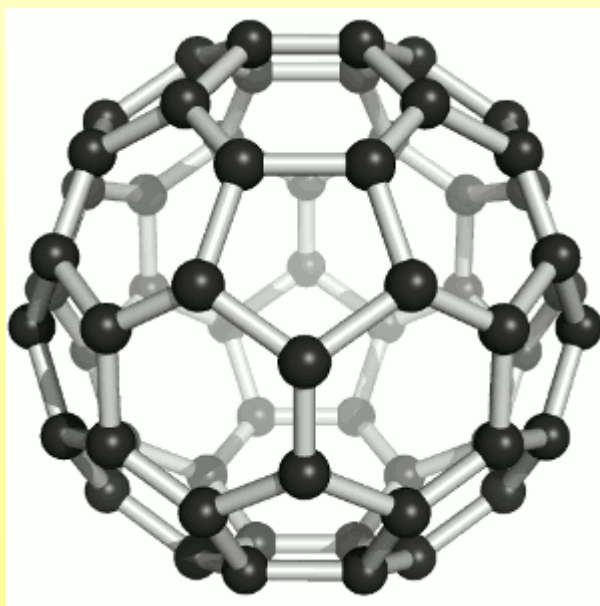


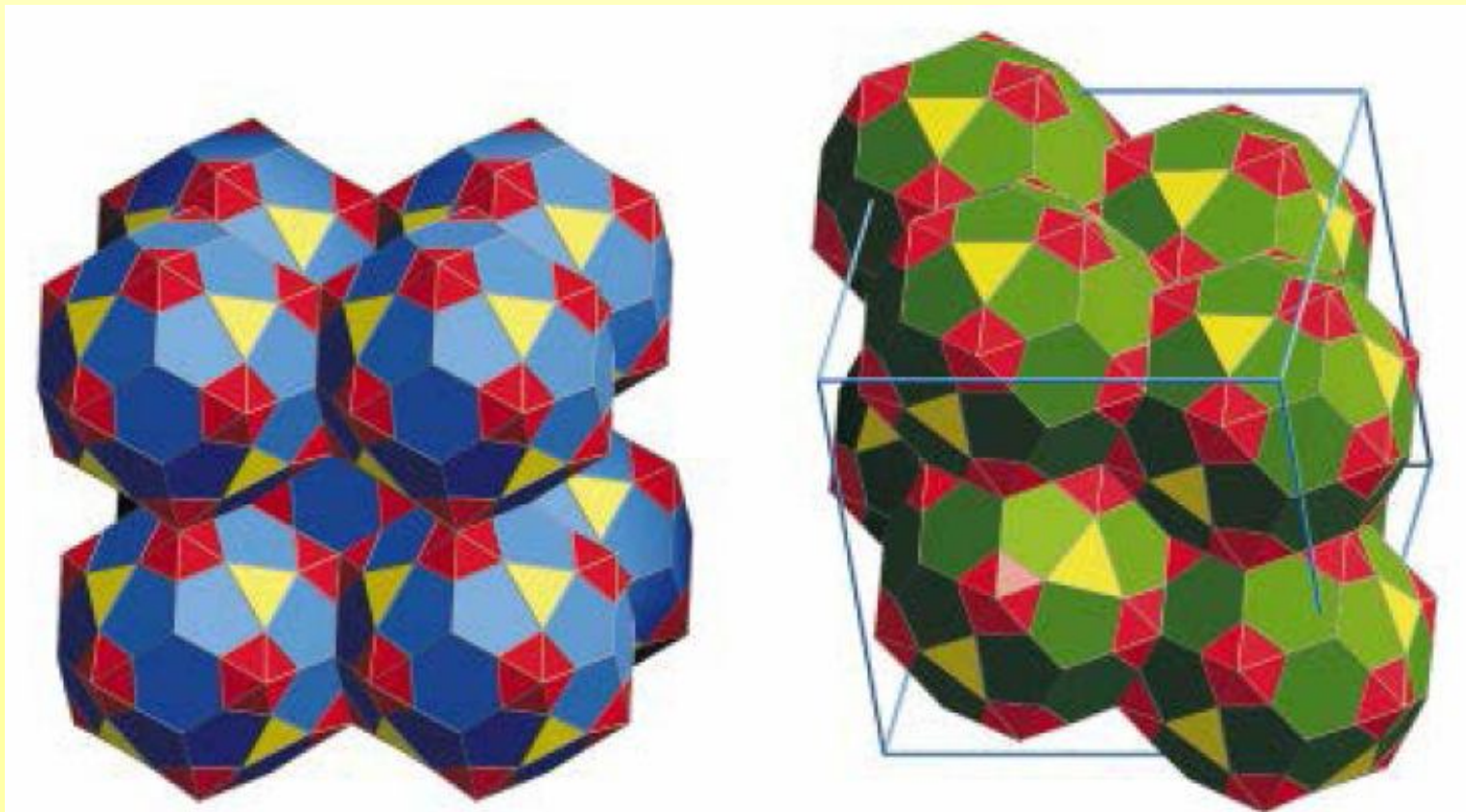












1:1

2:1

Prizes

2011 Nobel Prize in Chemistry
2008 European Materials Research Society (E-MRS) 25th Anniversary Award
2002 EMET Prize in Chemistry
2000 Muriel & David Jacknow Technion Award for Excellence in Teaching
2000 Gregori Aminoff Prize of the Royal Swedish Academy of Sciences.
1999 Wolf Prize in Physics
1998 Israel Prize in Physics
1993 Weizmann Science Award
1990 Rothschild Prize in Engineering
1988 New England Academic Award of the Technion
1988 International Award for New Materials of the American Physical Society
1986 Physics Award of the Friedenbergs Fund for the Advancement of Science and Education

Membership in Academies

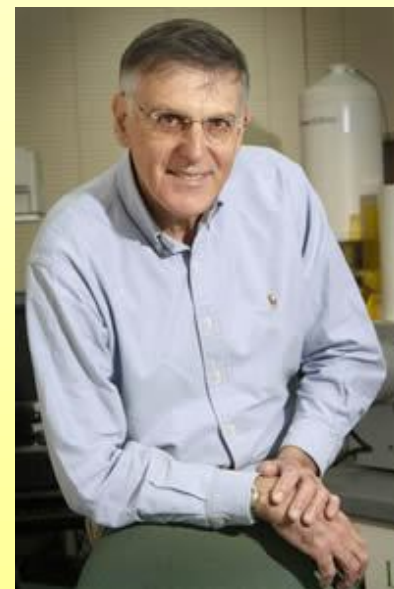
2004 Elected member of the European Academy of Sciences.
2000 Elected member of the American National Academy of Engineering.
1996 Elected member of the Israel Academy of Sciences.

Honorary Membership in Professional Societies

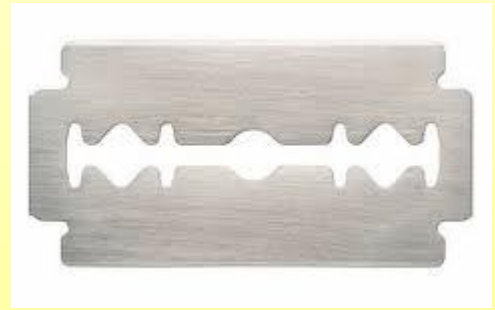
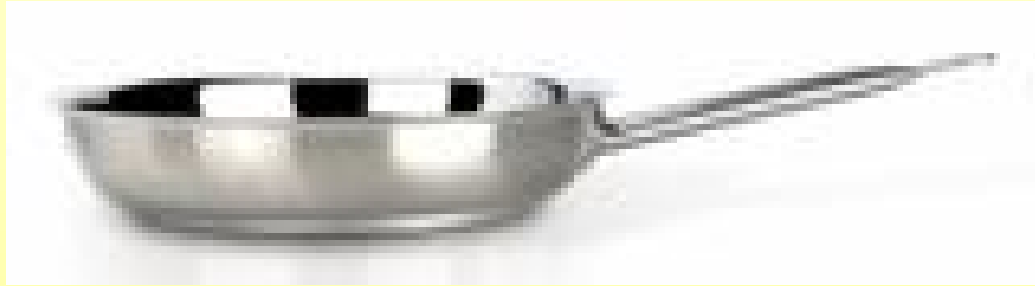
2005 Elected Honorary Member of the Japan Institute of Metals
2000 Elected Honorary Member of the French Physical Society
1999 Elected Honorary Member of the Israel Crystallographic Association
1998 Elected Honorary Member of the Israel Society for Microscopy
1998 Elected Honorary Member of ISIS-Symmetry (International Society for Interdisciplinary sciences)
1997 Elected Honorary Member of MRSI (Materials Research Society of India)

Educational Background

B.Sc. 1966 (Technion)
M.Sc. 1968 (Technion)
Ph.D. 1972 (Technion)



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Дякую за увагу!