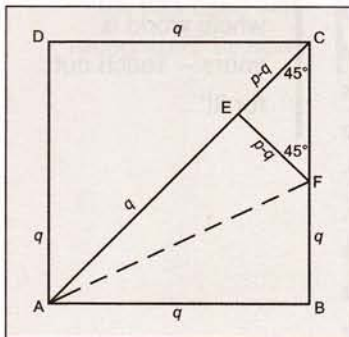
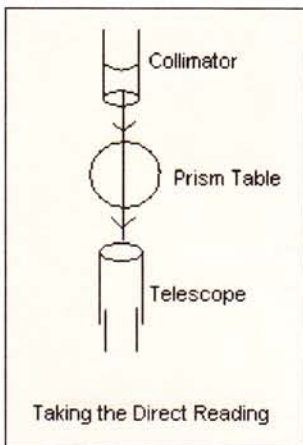


31



46



Our Readers Write	78
Index 2007	79
Errata	57

GENERAL ARTICLES

06 Maria Goeppert Mayer

B Banerjee

12 Mayer-Jensen Shell Model and Magic Numbers

An Independent Nucleon Model with Spin-Orbit Coupling

R Velusamy

25 Antifreeze Proteins of Bacteria

M K Chattopadhyay

31 Seven Different Proofs of the Irrationality of $\sqrt{2}$

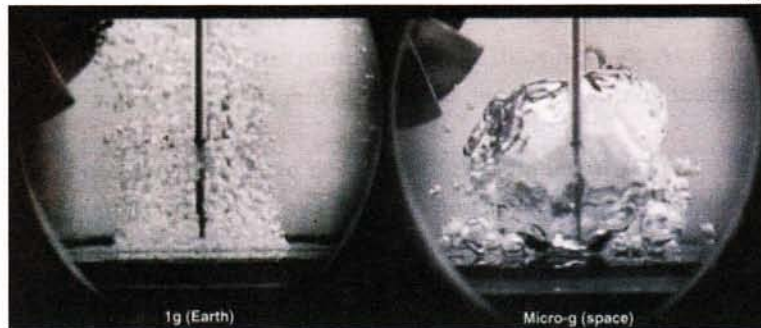
V G Tikekar

40 Getting Sloshed in Outer Space

Liquid Behavior in Microgravity

N Ananthkrishnan

40





Information and Announcements

Science Academies' Summer Research Fellowship Programme for Students and Teachers – 2008	74
Refresher Course on "Vistas in Zoological Teaching"	75
First International Earth Science Olympiad – South Korea	76
Nobel Prize – 2008	77

PERSONAL REFLECTIONS

58 The Philosophy of the Physical Sciences

N Mukunda

Front Cover



The KC-135 aircraft used by NASA for generating low gravity conditions. See article on page 40.

(Photo courtesy:NASA)

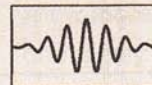
Back Cover



Maria Goeppert Mayer
(1906–1972)

(Illustration: Subhankar Biswas)

DEPARTMENTS



Editorial 01

Rohini Godbole



Classroom

Significance of the 46

Minimum Deviation

Position of a Prism

H N Smitha



Think It Over

Solutions

1. 'A Problem in 53

Graph Theory'

K P Savithri

2. 'On a Result of 55

Ramanujan'

S K Varma

and C L Dewangan

Inside Back Cover

Flowering Trees

(Credit: Archana Prasad,
CES, IISc)