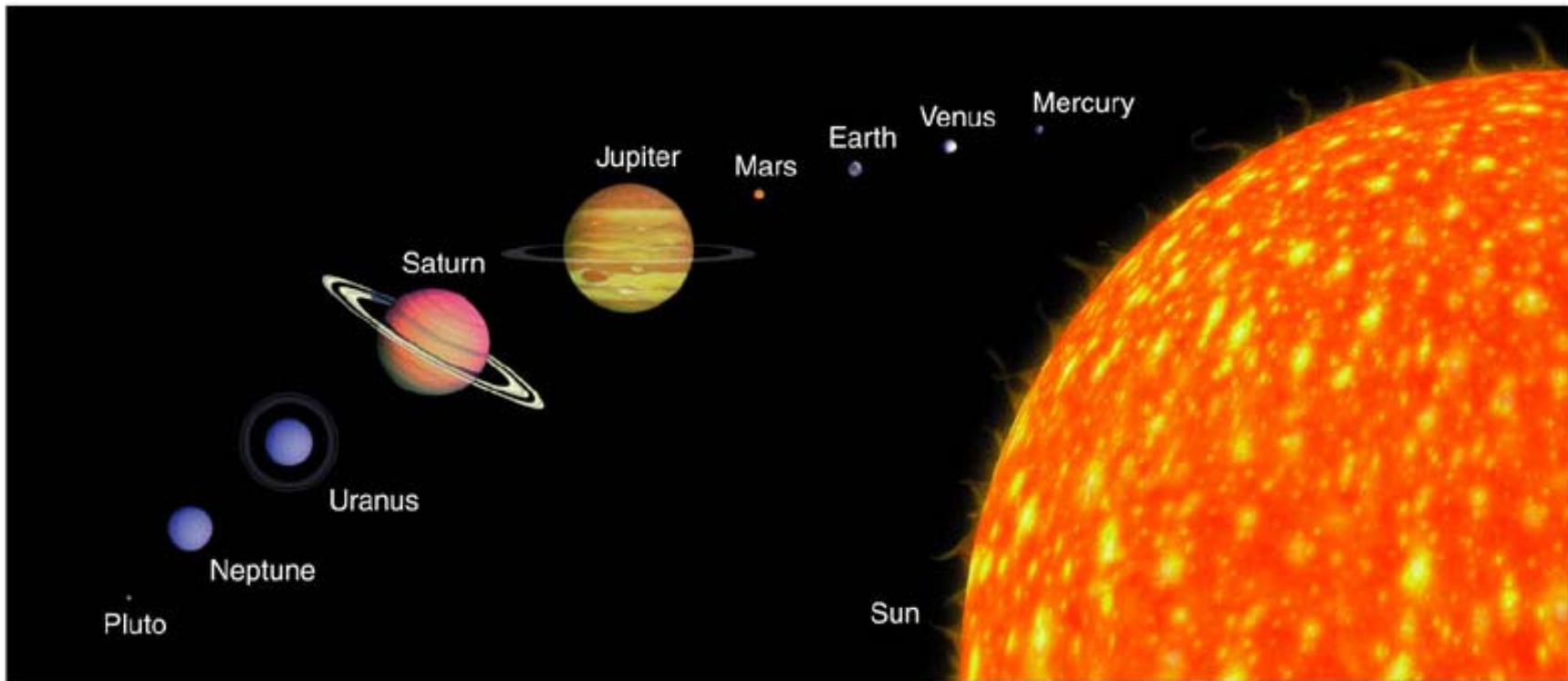# How large are the objects in the solar system?

- Let's view them *to scale*
  - Different scale than text: sizes and distances both on same scale
  - Sun: 1.39×10^6 km in diameter, represented by a volleyball = 8.5 inches in diameter
  - Scale is about 1 inch for every 160 000 km (~ 100 000 miles)
- Using your intuition, GUESS how big the Earth is on this scale!
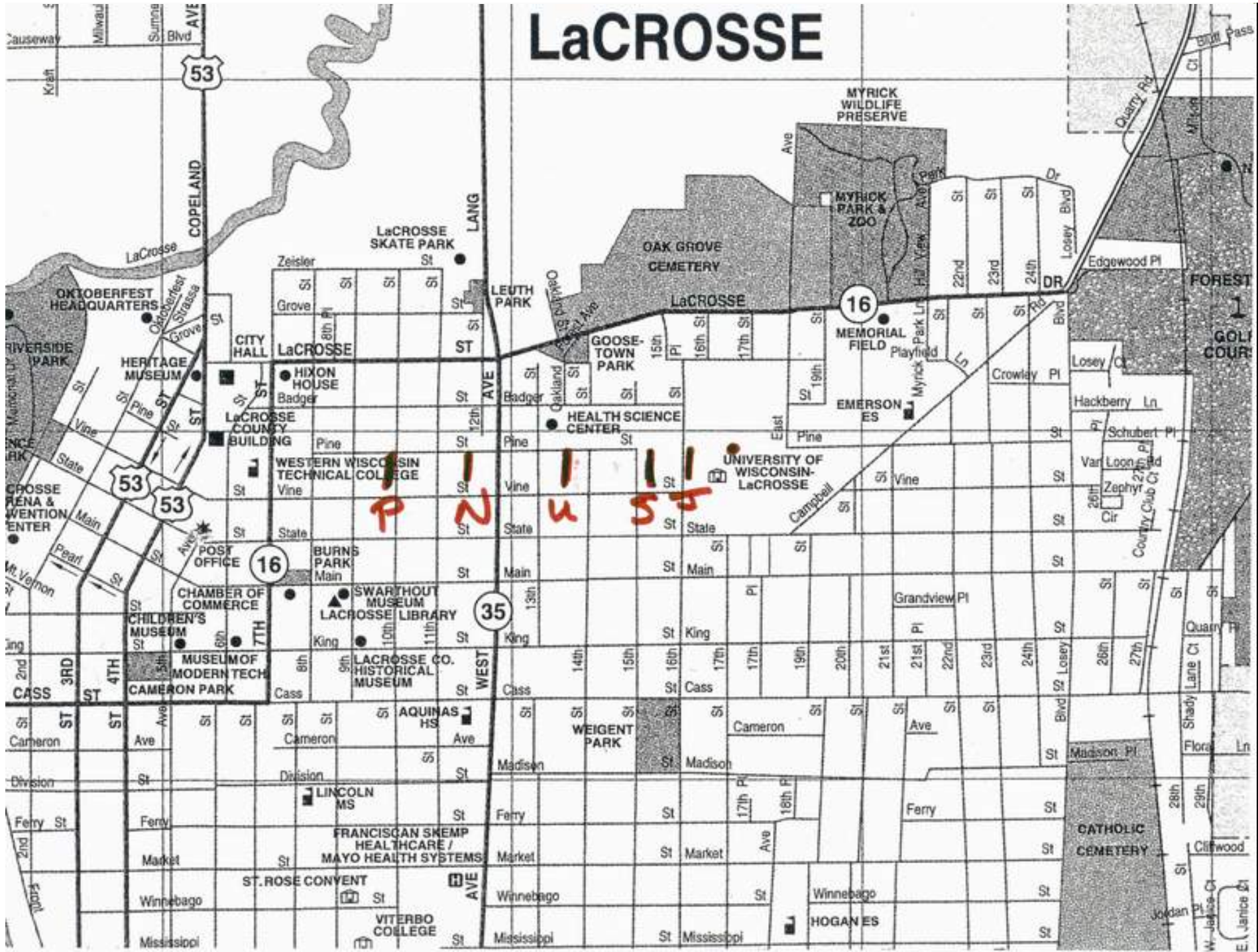 - Softball, tennis ball, golf ball, marble, peppercorn/BB?

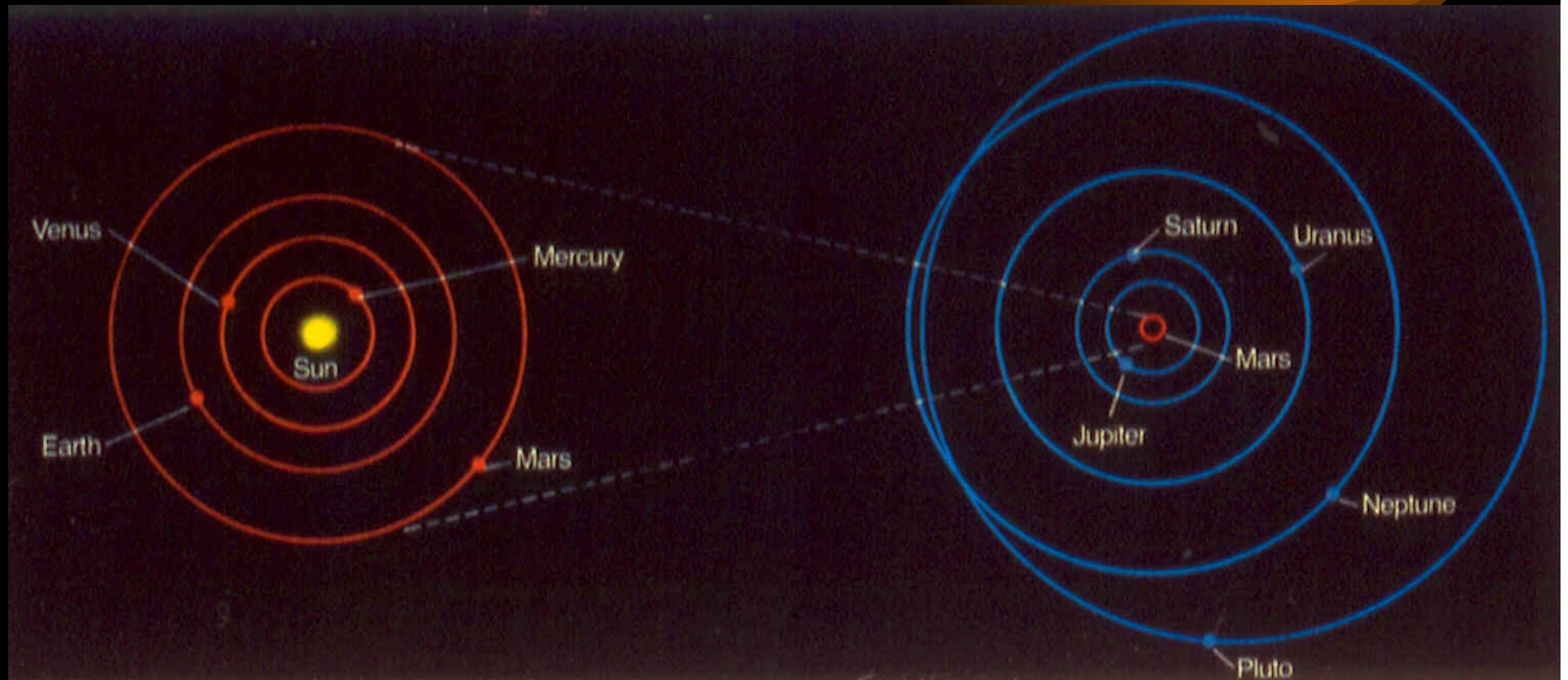peppercorn

Relative Sizes of Planets

How far away are the objects in the solar system?

- If we keep using the SAME scale, GUESS how big a model of the whole solar system will be –
  - Will it fit on a table? Inside the room? Inside the building?

- Mercury is almost *10 yards* from the Sun in this model!
  - This is 30 feet!
 - Let's go into the hall to see how big the model has to be!

LaCROSSE

53

MYRICK WILDLIFE PRESERVE

LaCROSSE SKATE PARK

OKTOBERFEST HEADQUARTERS

RIVERSIDE PARK

HERITAGE MUSEUM

CITY HALL

LEUTH PARK

OAK GROVE CEMETERY

MYRICK PARK & ZOO

FOREST

GOLF COURSE

Zeisler St

Grove

LaCROSSE ST

HIXON HOUSE

Badger St

LaCROSSE COUNTY BUILDING

Pine St

WESTERN WISCONSIN TECHNICAL COLLEGE

Vine St

P N u St

POST OFFICE 16

BURNS PARK

CHAMBER OF COMMERCE

CHILDREN'S MUSEUM

MUSEUM OF MODERN TECH

CAMERON PARK

SWARTHOUT MUSEUM

LACROSSE LIBRARY

LACROSSE CO. HISTORICAL MUSEUM

King St

Cass

AQUINAS HS

WEIGENT PARK

Cameron Ave

Madison

LINCOLN MS

Ferry St

FRANCISCAN SKEMP HEALTHCARE / MAYO HEALTH SYSTEMS

Market St

ST. ROSE CONVENT

Winnebago St

VITERBO COLLEGE

Mississippi St

HOGAN ES

CATHOLIC CEMETERY

GOOSE-TOWN PARK

LaCROSSE 16

MEMORIAL FIELD

Playfield

EMERSON ES

HEALTH SCIENCE CENTER

UNIVERSITY OF WISCONSIN-LaCROSSE

Crowley Pl

Hackberry Ln

Schubert Pl

Van Loon Rd

Zephyr

State St

Main St

King St

Cass St

Grandview Pl

Quarry R

Madison Pl

Flora Ln

Clifwood

Edgewood Pl

Losey Ct

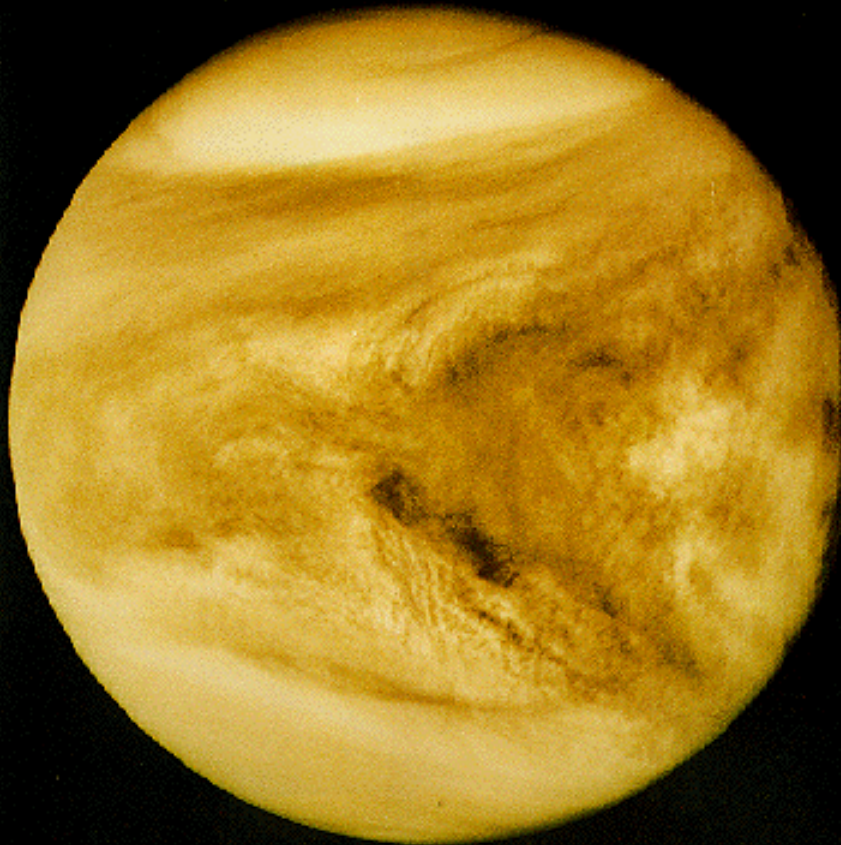# Scale of the Solar System

Scale Model of the Solar System

- The Sun (volleyball)
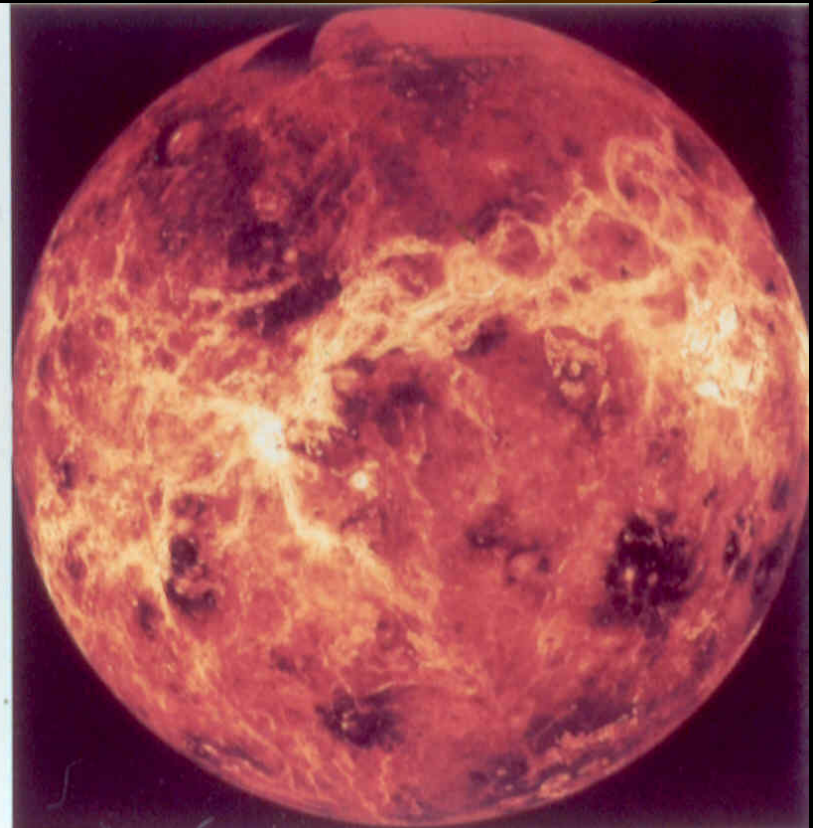- Mercury (Pinhead at 10 yds)
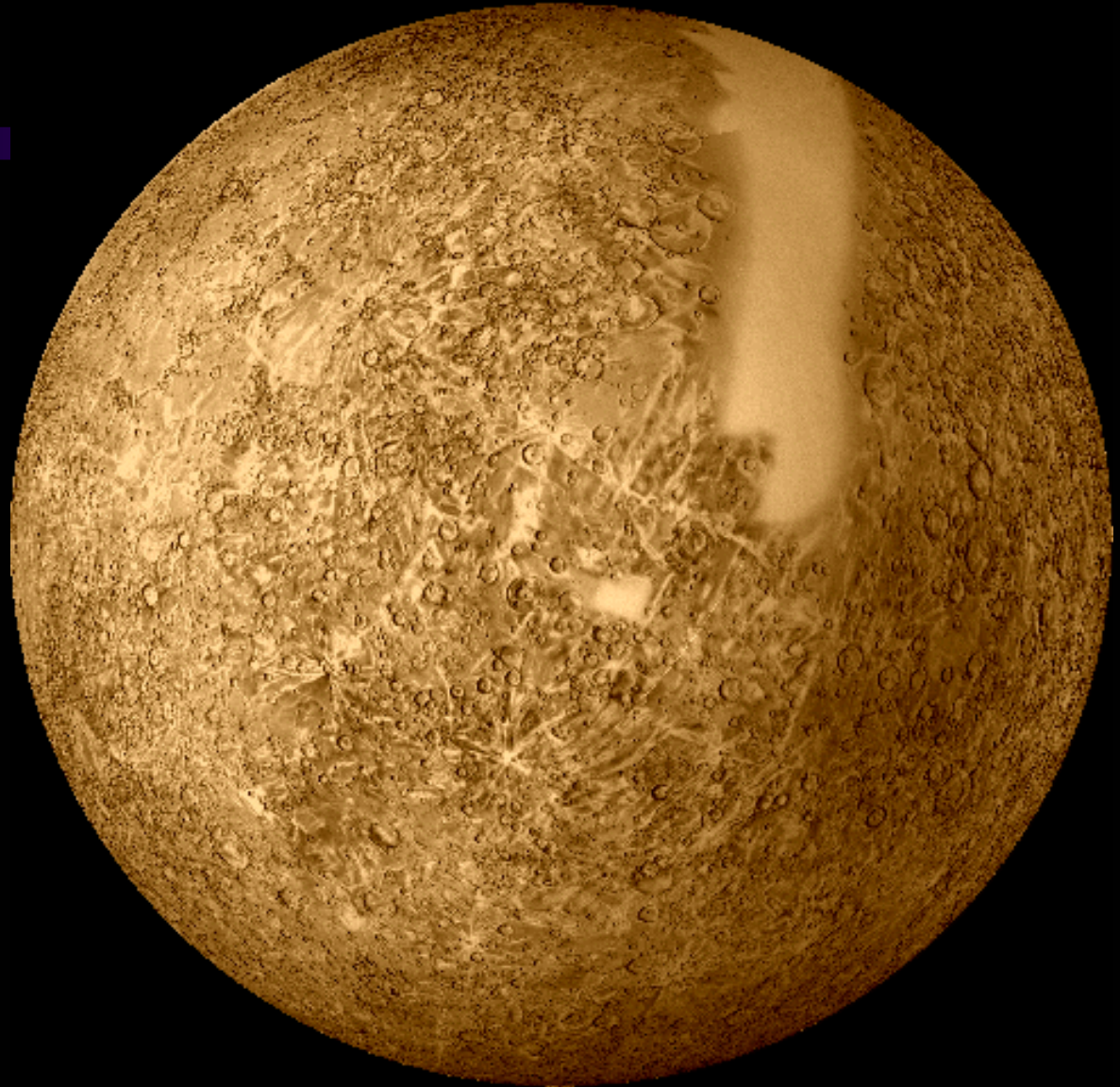
Scale Model of the Solar System

- Venus (peppercorn at 18 yds)
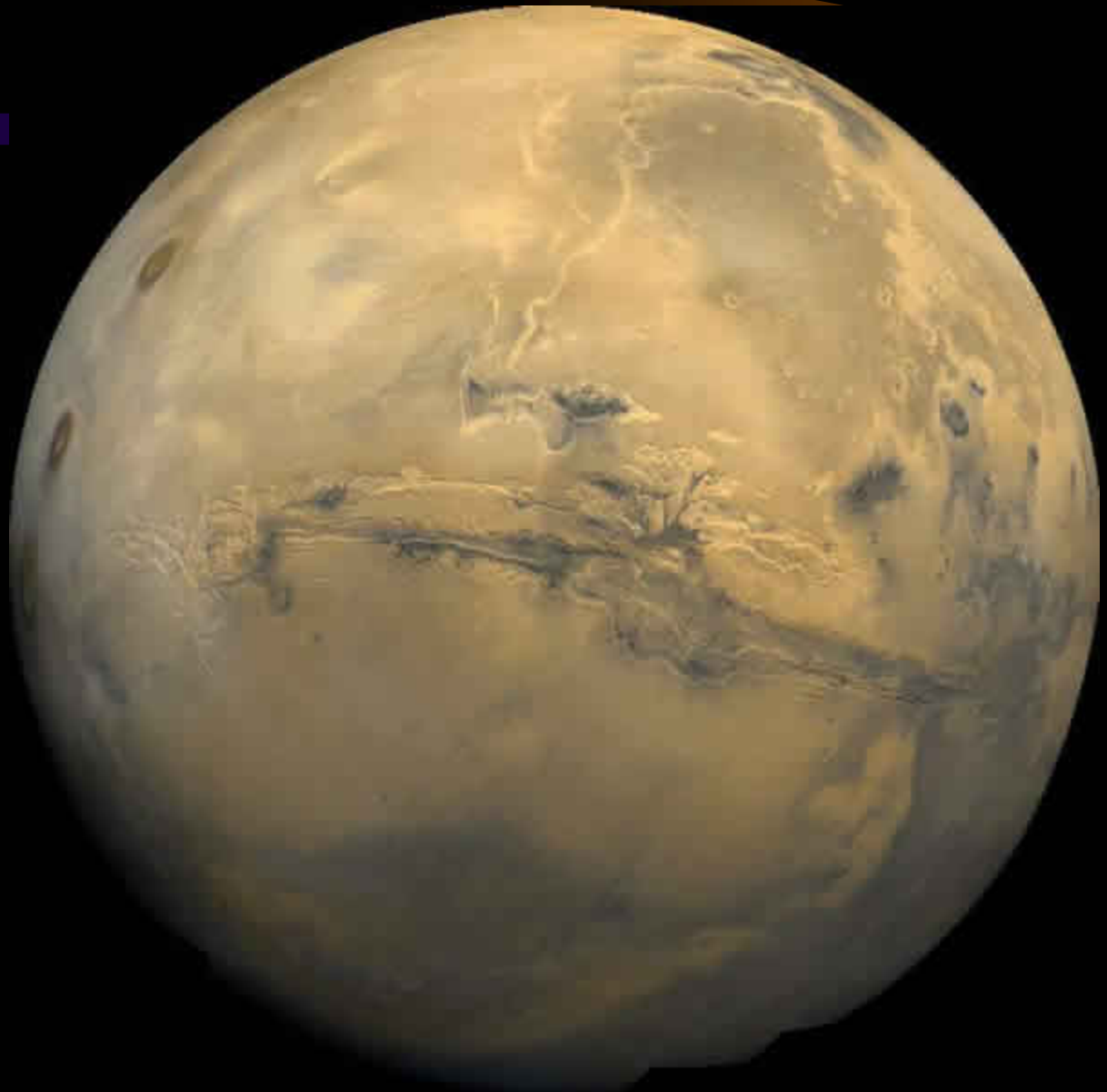

clouds

Beneath the clouds

Scale Model of the Solar System

- Earth (peppercorn at 25 yds)
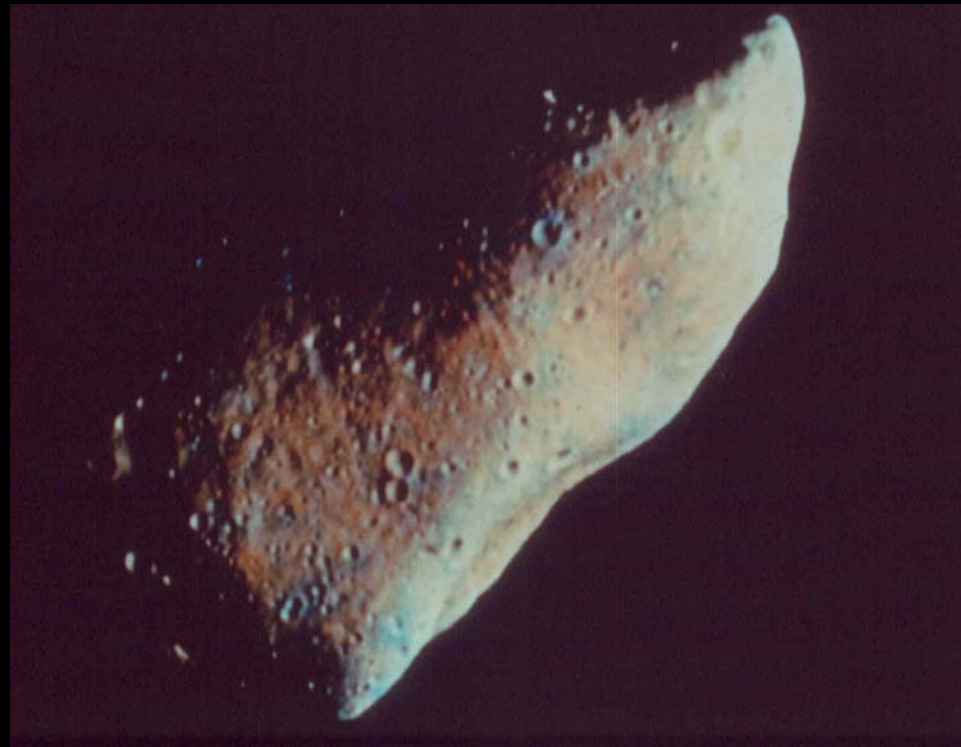- Moon (pinhead 2.4 inches away).

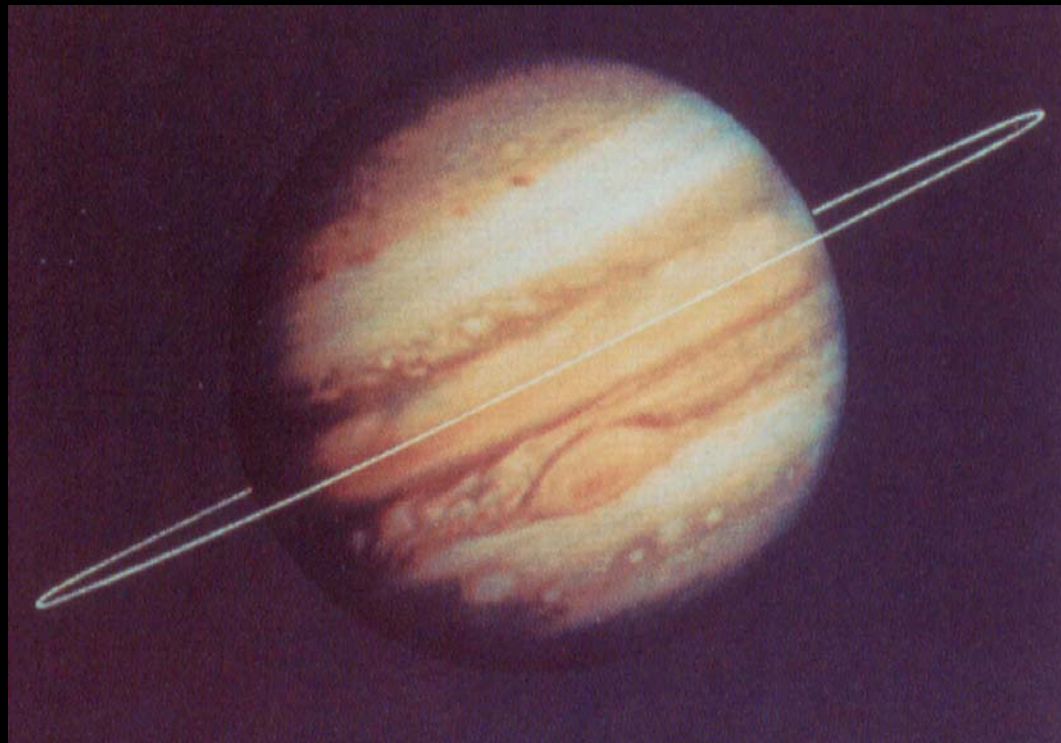# *Scale Model of the Solar System*

- Mars
  (Pinhead at
  39 yards)

Scale Model of the Solar System

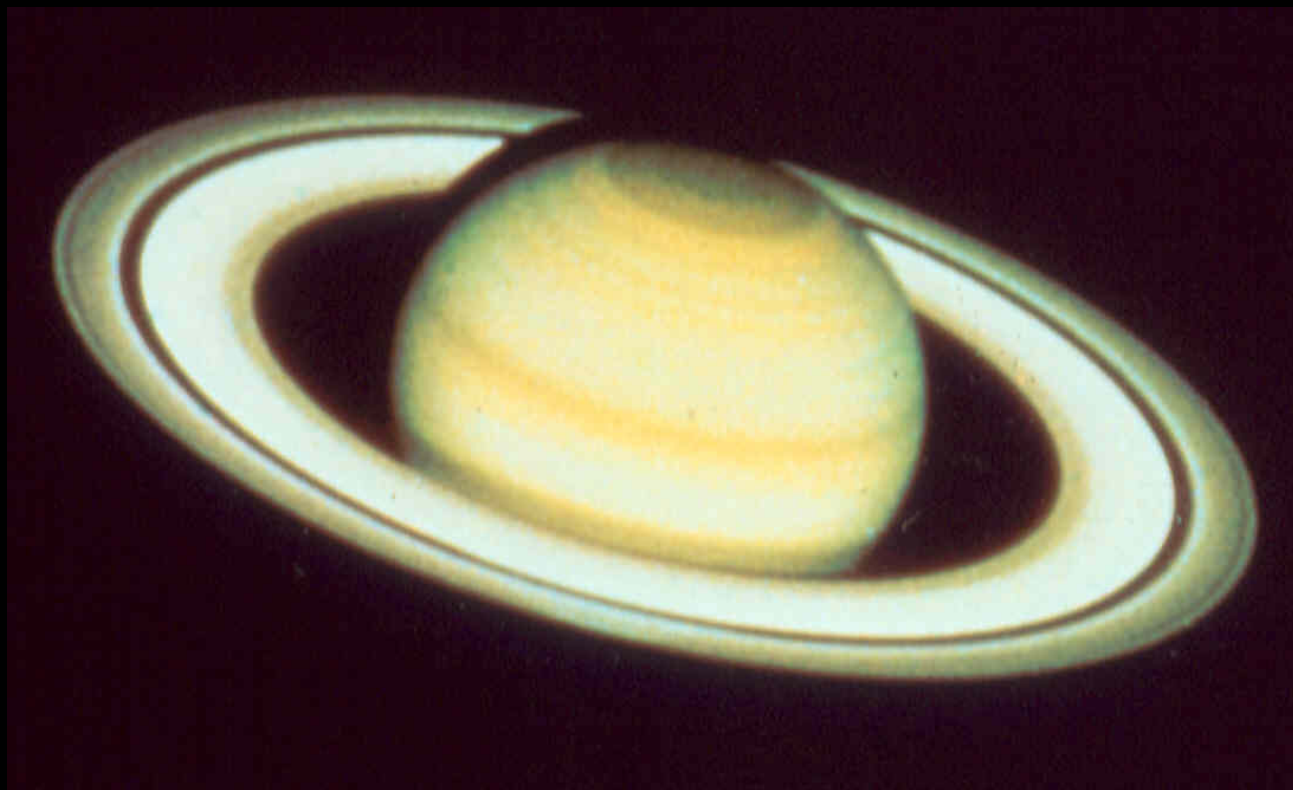- Asteroids (A few thousand specks of dust between 50 and 75 yards away from the volleyball)

Scale Model of the Solar System
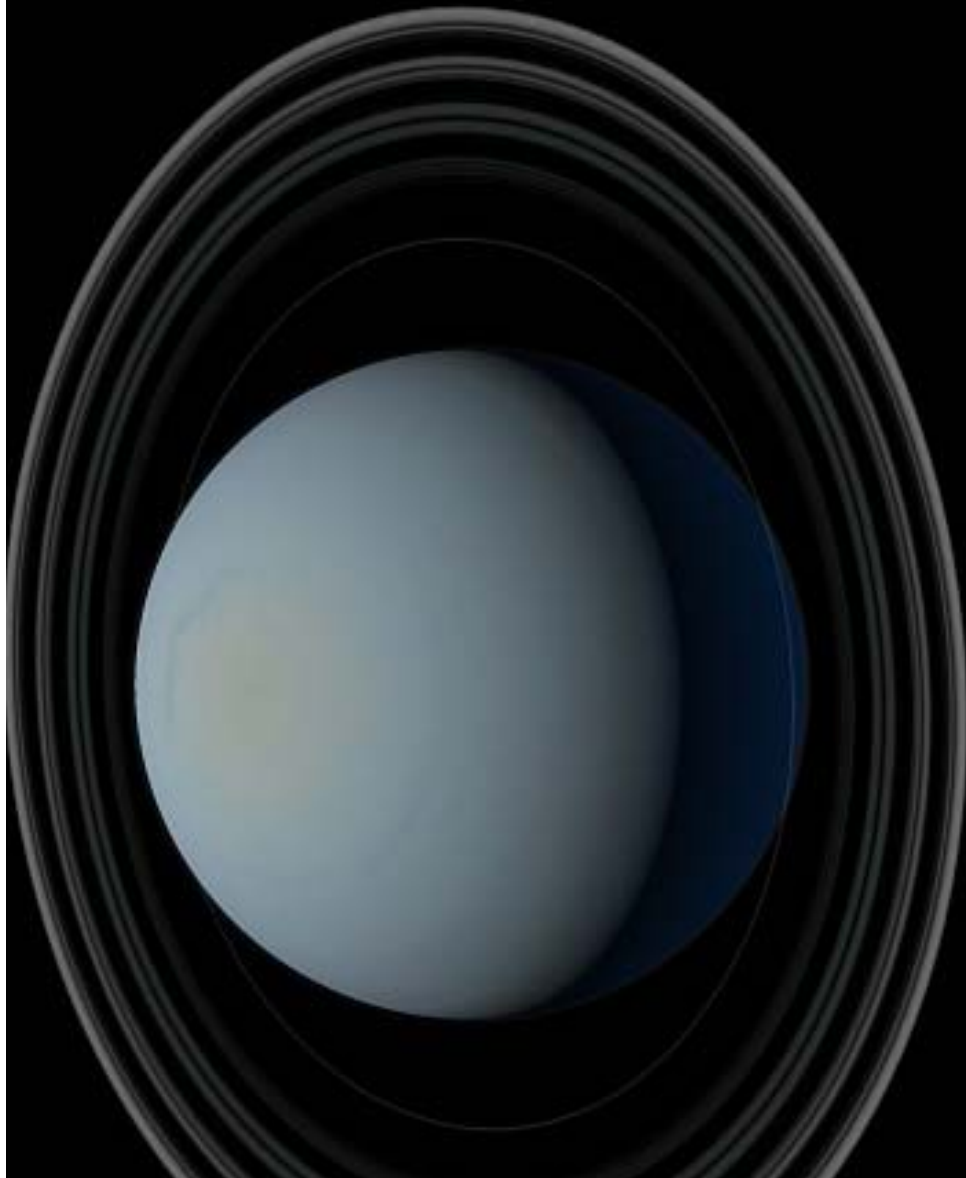
- Jupiter (A ball bearing at 132 yards)
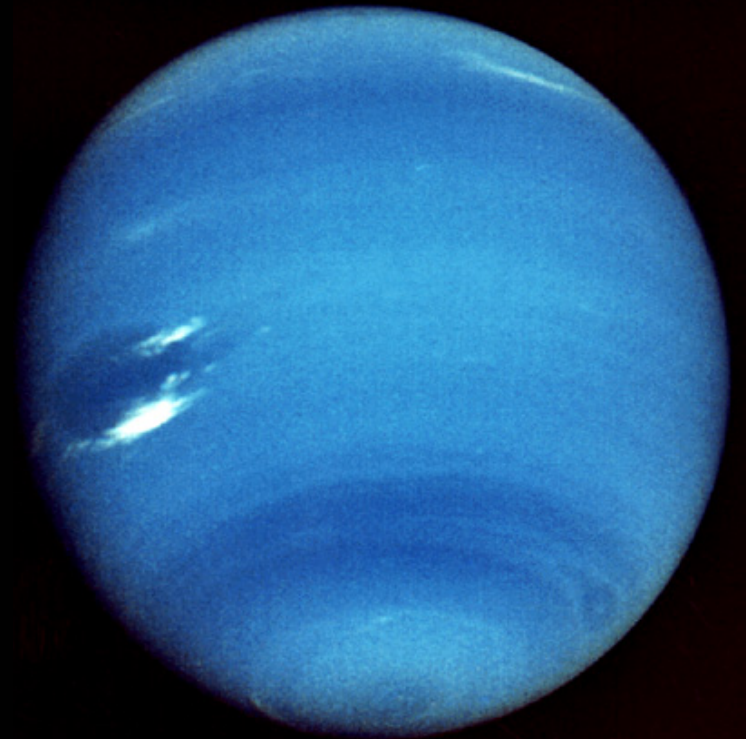
Scale Model of the Solar System

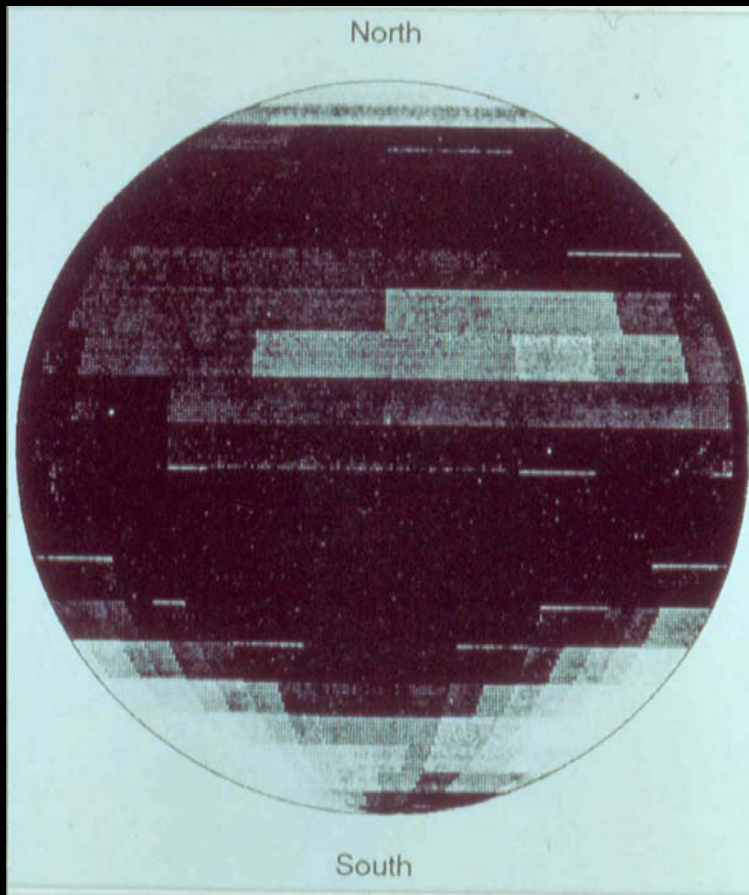- Saturn (hazelnut at 242 yards)

Scale Model of the Solar System

Uranus and Neptune
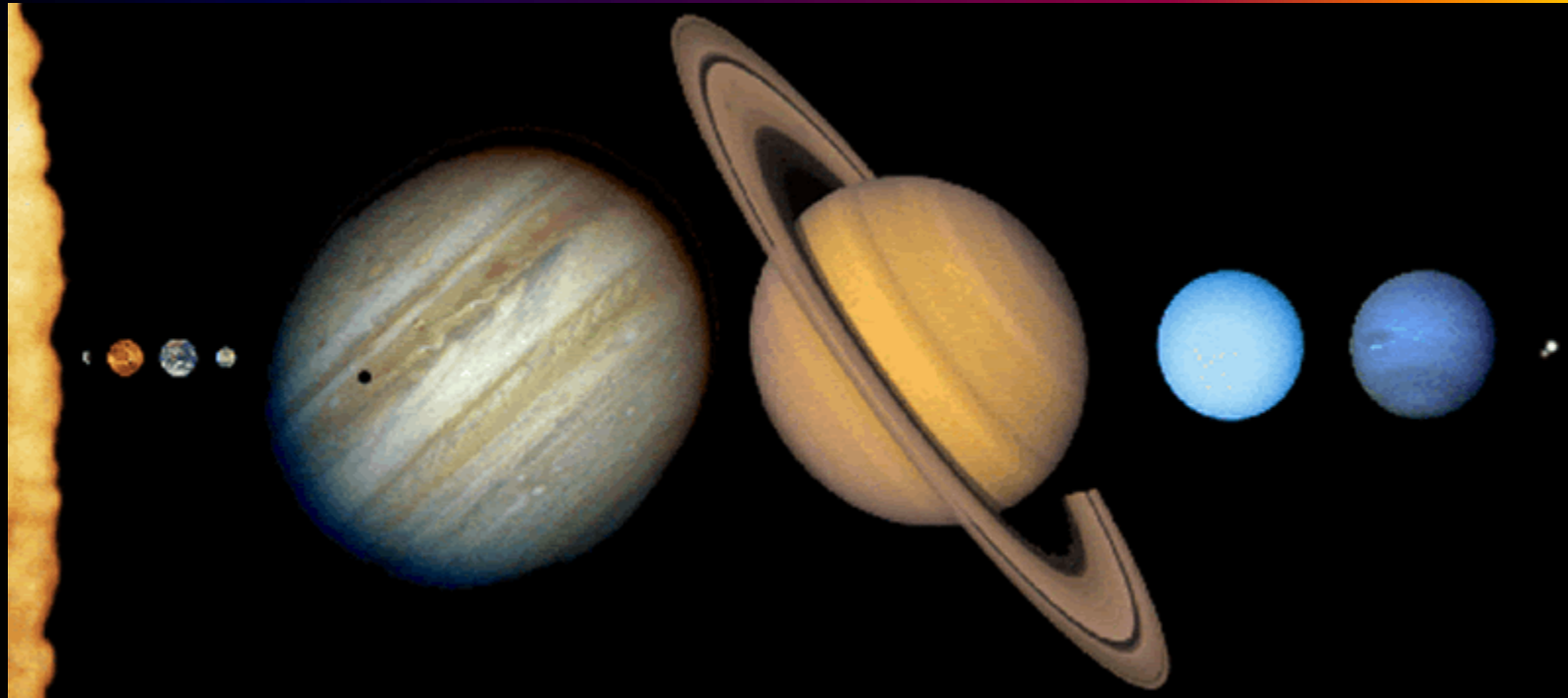(coffee beans at 487 and
762 yards)

Scale Model of the Solar System

- Pluto & Charon (small pinheads at 1000 yds)

Relative Sizes of Planets

Nearest Star

- The nearest star (other than the Sun) is 4.28 light years away (265 608 AU)!

- GUESS how far this would be in our scale model?
  - The next volleyball-sized object is ~ 6 900 000 yards or 3900 miles away. This is the approximate distance between La Crosse, WI and Cardiff, Wales.