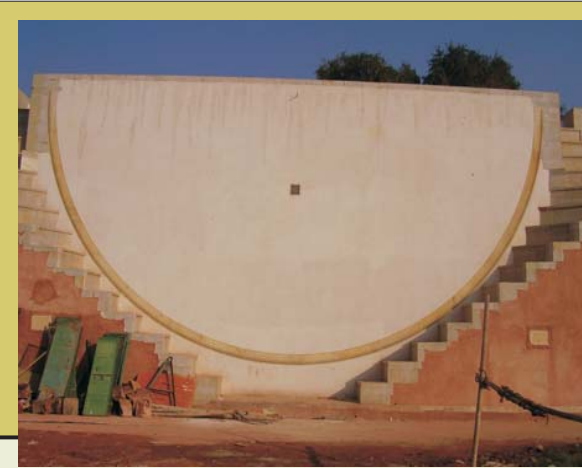


Dakshinottara Bhatti



The west facing wall of the Dakshinottara Bhatti Yantra

Dakshinottara Bhatti is an instrument built into a wall placed exactly in the North-South direction.

The instrument uses either the semi-circular arc built into the west facing wall, or the intersecting quadrants of the East facing wall, to measure the **Meridian Altitude** of a celestial object.

The instrument measures the Altitude of a celestial object as it crosses the Meridian. The circular arc of the west facing wall and the intersecting quadrants of the East facing wall have 90° Altitude marked at the bottom of the scale and 0° Altitude marked at the top ends of the scale.



The East facing wall of the Dakshinottara Bhatti

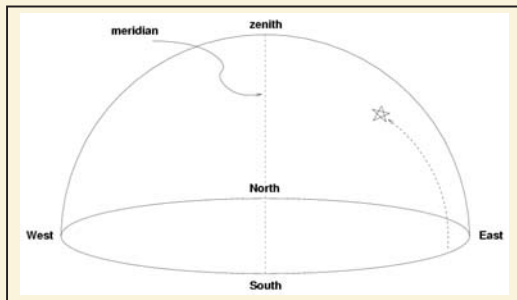
The markings on the scales are in units of degrees that have been further subdivided into 10 main divisions and further subdivisions of 3 small units which yield a least count of $2'$ of arc for the instrument.



Relevant Celestial Co-ordinates

The Dakshinottara Bhatti Yantra measures the **Meridian Altitude** of a celestial object, once in a day, as the celestial object **transits** the **Meridian**.

Meridian is a great circle in the sky connecting the North and the South points, and passing through the Zenith. With the rotation of the Earth, when a celestial body crosses this arc, it is said to **transit** the **Meridian**.



The angular height of the object from the Horizon, as it transits the Meridian, is its **Meridian Altitude**.

References

1. The instruments of the Jantar Mantar Observatory, Jaipur
2. The Jaipur Observatory and its Builder, by Lieut. A. ff. Garrett, R.E. and Pundit Chandradhar Guleri, Pioneer Press.
3. Sawai Jai Singh and His Astronomy, by Virendra Nath Sharma, Motilal Banarsidass Publishers.

Calibration work in progress by Nehru Planetarium, New Delhi