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# LIGO India Project

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Laser Interferometer Gravitational Wave Observatory (LIGO)

– India project will be the next step in science after  
Chandrayaan-3 and Aditya L1.

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The Laser Interferometer Gravitational-Wave Observatory (LIGO) - India is a planned advanced gravitational-wave observatory to be located in India as part of the worldwide network.

It will be established in Hingoli district of Maharashtra. A target has been set to complete it by 2030.

The Government of India had given in-principle approval to this project in 2016.

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It will be constructed by the Department of Atomic Energy and the Department of Science and Technology.

This observatory will provide information about the mysteries of the universe, including the nature of black holes, neutron stars and other astronomical phenomena.

This will improve the ability to characterize the source of gravitational waves anywhere in space.

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This observatory consists of two vacuum chambers 4 kilometres long. These are made perpendicular to each other.

Highly reflective mirrors are installed at the end of the vacuum chambers.

Light rays are simultaneously released into both vacuum chambers. Under normal circumstances, light rays from both chambers come back together. Here the presence of a phase difference between the two rays indicates the presence of a gravitational wave.



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Gravitational waves are generated by the collision of two huge bodies in space. These waves move in all directions away from the source, creating ripples in space and time. These are very strong and energetic waves.

Albert Einstein had explained about gravitational waves in his theory of relativity. Gravitational waves were first observed at the LIGO observatory in 2015.

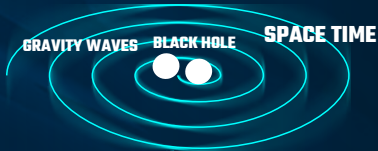


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MIRROR

MIRROR

4 K

LASER

LIGHT DETECTOR

## LIGO India Project

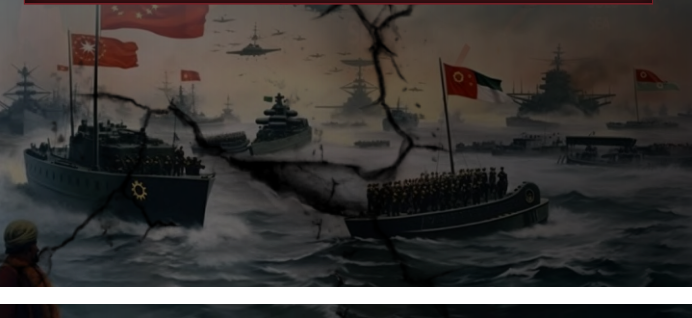


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# Nine Dash Lines







China has shown 9 dash-lines as Chinese territory in its new map. Therefore Malaysia, Vietnam, Thailand and Philippines have rejected this map.

China claims 90 percent of the South China Sea. The claim is based on imaginary U-shaped nine-dash lines drawn by China on maps in the 1940s.

It includes diverse islands including the Paracels and Spratly. The Permanent Court of Arbitration of the United Nations Convention on the Law of the Sea (UNCLOS) has ruled that China's claim to the area has no legal basis.

## 9 Dash Lines





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# Special Session of Parliament





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The Central Government has called a special session of Parliament. This session will run from 18 to 22 September. This is not the first time that the government has called a special Parliament session. Many post-independence governments have called special Parliament sessions on special occasions.

Apart from the three normal sessions of the Parliament, a special session of the Parliament can also be called if needed.



Special Session of  
**Parliament**



## When were the special sessions called:-

- 14-15 August, 1947: The first session of the Indian Parliament was held on the eve of India's independence to witness the handing over of power from the British authorities to the Indian people.
- November 1962: The Government of India, under the leadership of Prime Minister Jawaharlal Nehru, called a special session on the request of the then Jan Sangh leader Atal Bihari Vajpayee.
- 14-15 August, 1972: This day was special in itself. The Central Government had organized the celebration of 25 years of India's independence.
- August 9, 1992: It was a midnight special session of the Parliament. This session was organized to commemorate the 50th anniversary of the Quit India Movement.
- 14-15 August, 1997: A midnight session was organized to commemorate 50 years of independence.
- 26-27 November 2015: Dr. B.R. Paying homage to Ambedkar on his 125th birth anniversary, the two-day special session in Lok Sabha and Rajya Sabha was part of year-long celebrations to pay homage to the architect of the Indian Constitution. The topic was to discuss the commitment of our politics to the Constitution.
- 30th June 2017 – Held at midnight to implement GST • 18 to 22 September – being called on the theme of 'One Nation One Election'.

