

07 APRIL 2019

Event Horizon Telescope (EHT)

The US National Science Foundation has scheduled a news conference in April 10, Washington to announce a 'ground-breaking result from the Event Horizon Telescope (EHT) project,' an international partnership formed in 2012 to try to directly observe the immediate environment of a black hole.

Simultaneous news conferences are scheduled in Brussels, Santiago, Shanghai, Taipei and Tokyo.

What is Black Hole?

Black hole is an infinitely dense object whose gravity is so strong that nothing can escape its immediate proximity, not even light. As matter spirals into a black hole, it forms a disk that is heated to enormous temperatures, emitting copious quantities of X-rays and Gamma-rays that indicate the presence of the underlying hidden companion.

The fact that black holes do not allow light to escape makes viewing them difficult. The scientists will be looking for a ring of light - radiation and matter circling at tremendous speed at the edge of the event horizon - around a region of darkness representing the actual black hole. This is known as the black hole's shadow or silhouette.

A black hole's event horizon, one of the most violent places in the universe, is the point of no return beyond which anything - stars, planets, gas, dust, all forms of electromagnetic radiation including light - gets sucked in irretrievably.

Network of telescopes:

To capture this region, just on the cusp of the black hole itself, astronomers have had to link telescopes from across the globe and focus them on the closest, most massive black holes known as **Sagittarius A*** (pronounced "A-star"), which resides at the center of our own Milky Way galaxy, as well as the even larger supermassive black hole that sits at the center of nearby galaxy **M87**.

Sag A* has four million times the mass of our sun. It is located 26,000 light-years (or 245 trillion kilometres) away, it's like trying to photograph a golf ball on the Moon.

M87 - An elliptical galaxy, 1,500 times more massive even than Sag A*.

Event Horizon Telescope (EHT) project:

EHT is actually a team of telescopes working together in a process known as interferometry. This lets the connected telescopes behave as if they had one enormous collecting area.

Eight radio telescopes scattered across the globe - in Hawaii, Arizona, Spain, Mexico, Chile, and the South Pole - were trained on two black holes in very different corners of the Universe to collect data.

It had its big observing run in April of 2017.

India's imports from China decelerating

According to PHD Chamber of Commerce, India's imports from China stood at \$60 billion during the April-January period of 2018-19 fiscal, decelerating 5 per cent over the corresponding period a year ago.

India's trade deficit with China also eased to \$46 billion in April-January

Note



2019 from \$53 billion in the same period a year ago.

Commerce Ministry data showed India's export to China totalled \$13.8 billion whereas its imports from the neighbouring country stood at \$60.1 billion during the April-January period.

Although the trade deficit with China is substantial, given the recent trends and amendments in the foreign trade policy 2015-20, the volume of trade deficit is expected to ease in the coming years.



Challenging electoral bonds

In News:

The Supreme Court questioned the about challenging the legality of the Electoral Bond Scheme.

In Brief:

What is the Electoral Bond Scheme?

The scheme was launched last year by Union Finance Minister in an attempt to “cleanse the system of political funding in the country.” A donor may buy an electoral bond at specified banks and branches using electronic modes of payment and after having completed the KYC (know your customer) requirements. The political party will have to deposit the encashed money in a bank account it has informed the Election Commission about.

Where are they available?

The electoral bonds are available at specified branches of the State Bank of India (SBI) for 10 days each in the months designated by the government from time to time. The bonds may be bought for any value, in multiples of Rs.1,000, Rs 10,000, Rs 1 lakh, Rs 10 lakh or Rs 1 crore.

What was the system earlier?

The rules for declaring sources of funding for political parties are outlined in Section 29C of the Representation of the People Act, 1951. Prior to 2017, the Act said all registered parties had to declare all donations made to them of over Rs 2,000. The problem, according to political analysts and watchdog bodies, was that large donations were anonymous.

What is the controversy?

The bone of contention over the electoral bond scheme is that while the government has consistently said the scheme will increase transparency in electoral funding, it has ignored the reservations of several political parties and even the Election Commission.

The argument put forth by the Election Commission is that it allows political parties not to disclose the source of these bonds. The parties do not have to disclose where their money comes from, as long as the mode of funding is through electoral bonds. This provision, to exempt parties from declaring the sources of the electoral bonds they receive, was done

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through an amendment to the Representation of the People Act by the Finance Act, 2017.

The Election Commission also criticised several other changes made by the government. For example, it said the amendments introduced by the government in the Income Tax Act also facilitated anonymous donations by saying that parties did not have to disclose the names, address or PAN of donors of less than Rs 20,000. The bulk of the donations to parties have been coming in sums smaller than that amount, the Election Commission said. Another amendment that has been criticised is the one to the Foreign Contribution Regulation Act (FCRA), which the Election Commission said will allow political parties to receive funding from foreign companies with a majority stake in Indian companies.

Are people using these bonds?

Data revealed through the Right to Information replies by the State Bank of India show that large sums have been bought through electoral bonds. The State Bank of India issued a whopping Rs.1,716 crore in electoral bonds in just two months of 2019, the data show.

The RTI replies say electoral bonds worth Rs.495.6 crore were sold in Mumbai in 2019, which is the largest share (28.9%) of the total amount sold.

Observers are alarmed that the bulk of anonymous electoral bonds sold seem to be going to the Ruling Party. A separate RTI reply by the SBI has shown that the bank had sold Rs.222 crore worth of electoral bonds in March 2018, the only month in financial year 2017-18 when these bonds were sold.

Given that, at the time, the bonds could only be sold by the SBI, and the fact that a review of the BJP's audit report for 2017-18 showed that it had received Rs.210 crore worth of donations that year from electoral bonds, the party received 94.6% of all the electoral bonds sold in 2017-18.

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