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MINISTRY OF
SCIENCE AND
TECHNOLOGY



MK Yadav Sir

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Zepto India's first unicorn in 2023; bags \$200 million

Suneera Tandon
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NEW DELHI

Zepto on Friday said it has raised \$200 million in a Series E round of funding at a valuation of \$1.4 billion, making the online grocery company India's first unicorn of 2023, and lifting hopes in the startup ecosystem facing a prolonged funding winter.

The fundraise was led by US private market investor Step-Stone Group, which also made its first direct investment in an Indian company. The Group led the round with an investment of \$75 million, persons aware of the matter said. Goodwater Capital, a California-based consumer-focused venture capital firm, joined as a new investor. Existing investors such as Nexus Venture Partners, Glade Brook Capital, and Lachy Groom also took part in the round.

Founded in 2021 by Stanford University dropouts Aadit Palicha and Kaivalya Vohra, Zepto is also considering a public listing in the next two to three years. It currently runs more than 200 dark stores which ship everything from chips to diapers, notebooks, cooking oil and cigarettes in

Context: Zepto has raised \$200 million in a Series E round of funding at a valuation of \$1.4 billion, making the online grocery company **India's first unicorn of 2023**, and lifting hopes in the startup ecosystem facing a prolonged funding winter.

- India has emerged as the **3rd largest ecosystem** for startups globally as of 31st May 2023.
- **India ranks 2nd in innovation** quality with top positions in the quality of scientific publications and the quality of its universities among middle-income economies.

Unicorn startup

- **About:** Unicorns are **privately held, venture-capital backed startups** that have reached a **value of \$1 billion**.
 - The term was first popularised by venture capitalist **Aileen Lee**.
- **Very rare and require innovation:** Because of their sheer size, **unicorn investors tend to be private investors or venture capitalists**, which means they are out of the reach of retail investors.
- **Based on growth potential:** The valuation of unicorns is not expressly linked to their current financial performance, but **largely based on their growth potential as perceived by investors** and venture capitalists who have taken part in various funding rounds.

Sebi concludes 22 probes in Adani-Hindenburg matter

KHUSHBOO TIWARI
Mumbai, 25 August

The Securities and Exchange Board of India (Sebi) has concluded all barring two of its investigations into the allegations made by US-based short-seller Hindenburg Research against Gujarat-based conglomerate Adani Group, the market regulator submitted in its status report to the Supreme Court on Friday.

Sebi has said 22 of the 24 investigations had been completed. The two remaining are at an interim stage.

The investigations are into the possible violations of minimum public shareholding (MPS) norms, takeover regulations, related-party transactions (RPT), manipulation in stock prices, and insider trading.

However, Sebi has not commented on any violation or otherwise.

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UNDER THE SCANNER

▶ 13 related-party transactions during April 2005–March 2023, over 347 million trades examined

▶ Alleged manipulation of stock prices through three FPI clusters

▶ 5 instances of possible insider trading in Adani Power, Ambuja Cement, Adani Green

▶ 1 investigation in possible insider trading around the publication of Hindenburg report

▶ Possible violations of minimum public shareholding norms, FPI regulations



Context: The Securities and Exchange Board of India (Sebi) has concluded all barring two of its investigations into the allegations made by US-based short-seller **Hindenburg Research** against **Gujarat-based conglomerate Adani Group**, the market regulator submitted in its status report to the Supreme Court.

Adani-Hindenburg matter

- Hindenburg Research has alleged that the **Adani Group** was “engaged in a stock manipulation and accounting fraud”.
- The Adani Group has **interests in varied sectors** such as ports and logistics, power generation, agribusiness, real estate, defence, solar energy, financial services, natural resources and media.
- The research firm alleges that the Adani group has engaged in ₹17.8 trillion (US\$ 218 billion) brazen **stock manipulation and accounting fraud schemes** over the course of decades.
- The Hindenburg’s report says that the **Adani family controlled offshore shell entities** in tax havens spanning the Caribbean and Mauritius to the United Arab Emirates, which it claims were used to facilitate corruption, money laundering and taxpayer theft, while syphoning off money from the group’s listed companies.
- Adani group has taken a **lot of debt from Indian banks**.
 - So there is a looming threat around whether the business tycoon would be **able to return the debt on time or not**.
- There is risk involved in banks **lending huge sums of money against shares** since when a company is unable to fulfil its debt obligations its share price also often drops.
- **LIC has also invested** its money in the Adani group business.
 - The investment fell sharply due to the report and there is a fear among the investors regarding the loss of money.

‘NOTHING SHORT OF SECURITIES FRAUD’

▶ The **Gautam Adani**-led group said Hindenburg report is **selective & manipulative** presentation of matters already in public domain to **create a false narrative**

▶ It is rife with **conflict of interest** and intended only to create a false market in securities, it claimed

▶ This would enable the admitted **short seller to book a massive gain** while investors

lose, it said in a **413-pg rebuttal**

▶ The group suggested that Hindenburg’s conduct is a calculated **securities fraud**

▶ None of the **88 questions** are based on independent or journalistic fact-finding, the group claimed

▶ **Mala fide intention** is apparent given its timing when Adani Enterprises is undertaking the largest equity FPO, the group stated



Small antibiotic developers face huge challenges, need handholding: Experts

Antibiotic developers who spoke at CSE webinar highlighted their challenges related to scientific, financial and regulatory aspects of drug development



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By DTE Staff
Published: Friday 25 August 2023



WHAT'S AMR?

Resistance of a micro-organism to an antibiotic that was originally effective in treating infections caused by it

Why India needs to curb antibiotic overuse

- India's bacterial disease burden is highest in the world
- Large population suffers from diseases like diabetes, heart ailments and cancer, making them prone to infections
- 40% children are malnourished and at risk of infections
- More and more drug-resistant bacteria are being identified



Context: Indian small and medium companies stepping into **antibiotic development** are hindered by enormous challenges.

- But they can play an important role in rejuvenating the global pipeline if their concerns are addressed, experts said at a global webinar organised by **Delhi-based think tank Centre for Science and Environment (CSE)**.

Antibiotic resistance

- Antibiotic resistance is a **silent pandemic impacting health, livelihoods and economies**.
- Antibiotics are **becoming ineffective and treatment options** are reducing. In 2019, about five million deaths were associated with it.
- **Antimicrobial Resistance (AMR) occurs** when bacteria, viruses, fungi and parasites change over time and no longer respond to medicines making infections harder to treat and increasing the risk of disease spread, severe illness and death.
- **AMR occurs naturally** over time, usually through genetic changes.
- Antimicrobial-resistant organisms are found in people, animals, food, plants and the environment (in water, soil and air).
- They can **spread from person to person** or between people and animals, including from food of animal origin.
- The main drivers of antimicrobial resistance include the misuse and overuse of antimicrobials, lack of access to clean **water, sanitation and hygiene (WASH)** for both humans and animals, poor infection and disease prevention and control in healthcare facilities and farms, poor access to quality, affordable medicines, vaccines and diagnostics, lack of awareness and knowledge, and lack of enforcement of legislation.

Tele-Law 2.0 unveiled by Law Minister

Context: In a momentous event, the **Tele-Law 2.0 initiative** was launched marking an important chapter in the evolution of the Tele-Law program of the **Department of Justice, Ministry of Law & Justice**.

- This ground-breaking program, operating under the DISHA Scheme, has achieved a significant milestone by delivering 50 lakh legal consultations, reinforcing its unwavering dedication to ensuring justice reaches every corner of the nation.
- **DISHA Scheme** was launched in order to provide a comprehensive, holistic, integrated and systemic solution on access to justice at pan India level.

Tele-Law Programme

- The Tele-Law programme comes under the **Department of Justice, Ministry of Law and Justice and was launched in 2017**.
- It is an **e-interface mechanism** to seek legal advice and consultation at a pre-litigation stage with the aim of 'Reaching the Unreached'.
- The **programme connects needy and marginalised people** in need of legal aid with the Panel Lawyers via video conferencing/telephonic facilities available at Common Service Centres (CSCs) situated at the **panchayat level**. In addition, the service can also be accessed through the Tele-Law Mobile App.
- A **Panel Lawyer is a practicing advocate** selected by the Department of Justice and CSC-eGovernance Services or registered on the Panel of State /District Legal Services Authority.
- Legal advice is made available to everyone under Tele-Law service. **Advice is free of Cost to those who are eligible for free legal aid under Section 12 of LSA Act, 1987.**

Tehran and New Delhi drop foreign arbitration clause in Chabahar port issue

Kallol Bhattacharjee
NEW DELHI

In a move aimed at boosting India-Iran commercial relations, Tehran and New Delhi have agreed to drop the clause for arbitration in foreign courts concerning the Chabahar port, which had been a hurdle for the framing of a long-term agreement around the facility, the *Iran Daily* has reported. This major development also coincided with the decision of the BRICS grouping to admit Iran along with five other countries.

"We have agreed that disputes at Chabahar will not go for commercial arbitration in foreign courts but take investment arbitration or any other mode of dispute settlement. This would prevent Iran from having to amend its Constitution," a source told the *Iran Daily* in Tehran. Both sides have agreed to pursue arbitration under rules framed by the UN Commission on International Trade Law which is favoured by India over other international trade arbitration mechanisms.

The Chabahar issue had featured prominently during a telephonic conversation between Iran's president Ebrahim Raisi and Prime Minister Narendra Modi. According to the Ministry of External Affairs, "The two leaders reiterated their commitment to further strengthen bilateral cooperation including to realise the full potential of Chabahar Port as a connectivity hub." Mr. Raisi met Mr. Modi in Johannesburg on Thursday on the sidelines of the 15th BRICS summit when the two sides expressed commitment to boost ties.

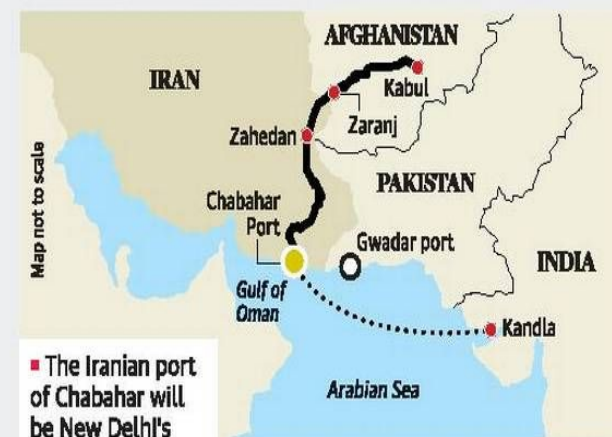
Context: In a move aimed at boosting **India-Iran commercial relations**, Iran and India have agreed to drop the clause for arbitration in foreign courts concerning the Chabahar port, which had been a hurdle for the framing of a long-term agreement around the facility.

Chabahar Port

- **Meaning:** Chabahar is **made of Persian words** Chahar meaning four; and bahar meaning spring.
 - Chabahar city is also home to Iran's only deep-sea port with direct access to the ocean.
- **Location:** Off the **Gulf of Oman** in Iran's southeastern province of Sistan-Baluchistan & is the only Iranian port with direct access to the ocean.
- **Consist of two ports:** Chabahar Port consists of two separate ports called **Shahid Kalantari** and **Shahid Beheshti**.
- **Significance:** Important for its fishery sector and will act as an important trade center connecting **South Asia, Central Asia, and the Middle East**.
- **Significance for India**
 - **Gateway to Central Asia and beyond:** The port gives access to the energy-rich Persian Gulf nations' **southern coast** & Central Asia and India can bypass Pakistan with the Chabahar port becoming functional.
 - **Access to Afghanistan:** The **International North South Transport Corridor (INSTC)** allowed India to trade with the outside world via Iran, but India could not do so with Afghanistan (not a member of INSTC) in spite of being a very close neighbor.
 - **Strategic Importance:** Due to its location in the Gulf of Oman and at the entrance of the Strait of Hormuz and enables Iran to have direct entry to the Indian Ocean.
 - Chabahar Port is also quite **near the Gwadar Port** of Pakistan being developed by China.
 - It will also **counter the China-Pakistan Economic Corridor (CPEC)**.

Geo-strategic push

The consignment of wheat is the first of six shipments to be sent to Afghanistan over the next few months via Iran



■ The Iranian port of Chabahar will be New Delhi's primary gateway to Afghanistan and Central Asia

■ Chabahar will help ramp up trade between India, Afghanistan and Iran in the wake of Pakistan denying transit facilities

India, Greece elevate ties to a strategic partnership



PM receives Grand Cross of the Order of Honour from the Greek president

PM Modi's visit to Greece, the first by an Indian PM in 40 years, saw the two nations upgrading their relationship to a strategic partnership with focus on expanding political, defence & security cooperation. The visit also

had Greek President Katerina N Sakellariopoulou conferring the Grand Cross of the Order of Honour on Modi, making him the first foreign head of government to receive it. **TNN**

► **Bilateral trade, P 15**



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Context: PM's visit to Greece, the **first by an Indian PM in 40 years**, saw the two nations upgrading their relationship to a strategic partnership with focus on expanding political, defence & security cooperation.

India - Greece Relations

- India and Greece **established diplomatic relations** after India's independence in 1947. Both countries are members of international organizations and maintain bilateral ties.
- **Greece opened its embassy in New Delhi in 1950**, and India established its embassy in Athens in 1978.
- **India and Greece maintain diplomatic ties** and have engaged in various high-level visits, including exchanges between heads of state and government officials.
- The countries **collaborate on international platforms**, including the United Nations, Kashmir, and Cyprus issue. Greece participated with India in the Six-National Delhi Declaration on Nuclear Disarmament in 1985.
- The relationship has progressed smoothly over the last 65 years. **President A.P.J. Abdul Kalam visited Greece in April 2007.**
- During the visit of EAM in June 2021, the Framework Agreement on the **International Solar Alliance** was signed, which was ratified by the Greek Parliament on 15 March 2022.

Taiwan claims new activity by Chinese military in its response zone



Attacks came in aftermath of V-P Lai's trip to the US

REUTERS
TAIPEI, AUGUST 25

Taiwan's defence ministry reported renewed Chinese military activity around the island on Friday, including 13 aircraft entering Taiwan's "response" zone and five ships carrying out combat readiness patrols.

On Saturday, China held a day of drills around Taiwan in an angry response to brief stop-overs this month in the United States by Vice President William Lai.

The ministry said that starting about 7 am (0430 IST), it had detected 22 Chinese aircraft - fighters, bombers, early warning aircraft and drones - of which 13 entered Taiwan's "response" zone, though it did not provide further details.

Taiwan sent aircraft and ships to monitor them, it said.

Taiwan does not publicise where its "response" zone is, but it keeps closest watch on the Taiwan Strait, and the area to the island's south and southwest where Chinese military activity often is concentrated.

China, which views democratically governed Taiwan as its own territory, has not announced further drills around Taiwan since Saturday, though it frequently mounts such missions without acknowledging them beforehand or afterwards.

Context: Taiwan's defence ministry claimed that over the past 24 hours it had detected 20 Chinese air force planes entering the island's air defence zone, including a combat drone that flew along Taiwan's Pacific east coast.

Strategic Significance of Taiwan

- Taiwan is situated in a strategically important location in the **western Pacific Ocean, adjacent to China, Japan, and the Philippines**. Its location provides a natural gateway to Southeast Asia and the South China Sea, which are critical for global trade and security.
- It is a **major producer of high-tech electronics**, including semiconductors, and is home to some of the world's largest technology companies.
- Taiwan produces over 60% of the world's semiconductors and over 90% of the most advanced ones.
- Taiwan has a **modern and capable military** that is focused on defending its sovereignty and territorial integrity.
- Taiwan is a major focus of regional and global geopolitics, with the potential to influence the balance of power in the Asia-Pacific region and beyond.



GLOBAL BIODIVERSITY FRAMEWORK FUND

(Syllabus: GS Paper 3 - Env & Eco)

7th GEF Assembly: Global Biodiversity Framework Fund ratified

First projects under the new Fund likely to roll out ahead of CBD's CoP16



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By Vibha Varshney
Published: Friday 25 August 2023



Decoding the 23 targets set at COP15

A total of 196 countries have signed a historic deal to protect 30% of the world for nature by 2030 in Montreal

REDUCING THREATS TO BIODIVERSITY	MEETING HUMAN REQUIREMENTS THROUGH SUSTAINABLE USE	TOOLS AND SOLUTIONS FOR IMPLEMENTATION AND MAINSTREAMING
<p>1) Halting biodiversity loss: Bringing the loss of areas of high biodiversity importance close to zero, while respecting the rights of indigenous people</p> <p>2) Effective restoration: At least 30% of areas of degraded terrestrial, inland water, and coastal and marine ecosystems are under effective restoration</p> <p>3) Mapping linkages: Sustainable use of above areas is consistent with conservation outcomes</p> <p>4) Saving endangered species: Urgent steps to halt human induced extinction of threatened species; maintain their diversity through in situ and ex situ conservation</p> <p>5) Protecting wild species: Sustainable, safe and legal use of wild species; preventing overexploitation</p> <p>6) Invasive alien species: Mitigating their impacts by reducing rates of introduction by 50%; controlling them in priority sites such as islands</p> <p>7) Tackling pollution: Reduce pollution risks to levels that are not harmful to biodiversity and ecosystem functions</p> <p>8) Climate crisis: Minimise impact of climate change and ocean acidification through nature-based solutions</p>	<p>9) Serving humans: Ensure use of wild species yields benefits for humans, especially for those most dependent on biodiversity</p> <p>10) Ecosystem productivity: Sustainable management of areas under agriculture, aquaculture, fisheries and forestry for resilience and long-term productivity</p> <p>11) Handling nature's contributions: Restore, maintain and enhance nature's contributions to people through regulation of air, water, and climate</p> <p>12) Biodiversity in urban fabric: Increase the area and quality and connectivity of, access to, and benefits from green and blue spaces in urban and densely populated areas</p> <p>13) Sharing genetic resources: Take effective legal, policy, administrative and capacity-building measures to ensure equal sharing of benefits of genetic resources</p>	<p>14) Policy-making: Integration of biodiversity and its values into policies across all levels of govt, other sectors</p> <p>15) Legal perils for businesses: Regular assessments by transnational firms of their risks, dependencies, impacts on biodiversity; report on compliance with regulations</p> <p>16) Making eco-friendly choices: Encouraging people to make sustainable consumption choices, reduce global footprint of consumption</p> <p>17) Biosecurity measures: Adopting such steps for handling of biotechnology and distribution of its benefits</p> <p>18) Removal of harmful incentives: Identify by 2025, and eliminate/reform incentives harmful for biodiversity; cut them by \$500 bn per year by 2030</p> <p>19) Biodiversity finance: Increasing financial resources, mobilising \$200 billion per year by 2030</p> <p>20) Technical cooperation: Strengthen capacity-building and development, access to and transfer of technology</p> <p>21) Sharing knowledge: Access to information by decision makers, practitioners and public; access to technologies of indigenous peoples only with their consent</p> <p>22) Equal representation: Ensuring equitable representation in decision-making</p> <p>23) Gender based review: A gender-responsive approach by recognising women's rights and access to natural resources</p>

Context: The **Global Biodiversity Framework Fund (GBFF)** was finally ratified and launched at the Seventh Assembly of the Global Environment Facility (GEF) in Vancouver, Canada.

- **Governments, non-profits and the private sector** can now contribute their funds here to ensure that the world meets the goals and targets of the Kunming-Montreal Global Biodiversity Framework (GBF) formulated by the **Convention on Biological Diversity (CBD)** by 2030.

Global Biodiversity Framework Fund

- The **Governing board** has approved the establishment of a new fund, the Global Biodiversity Framework Fund (GBFF), to finance the implementation of the Kunming-Montreal Global Biodiversity Framework.
- This **fund is crucial as nearly 50% of its resources** will be allocated to biodiversity-related work during the GEF-8 period.
- **20% will be allocated to Indigenous Peoples** and local communities (IPLCs), 25% to GEF agencies, 36% to SIDS (Small Island Developing States), and 3% to LDCs (Least Developed Countries).
- The **allocation for IPLCs will be reviewed two years** after the ratification in August, while the allocations for SIDS and LDCs will be reviewed three years after ratification.

India Smart Cities Awards Contest (ISAC) 2022- Winners Announced

Context: A total of 845 nominations were received for ISAC 2022 from 80 qualifying smart cities.

Key Points

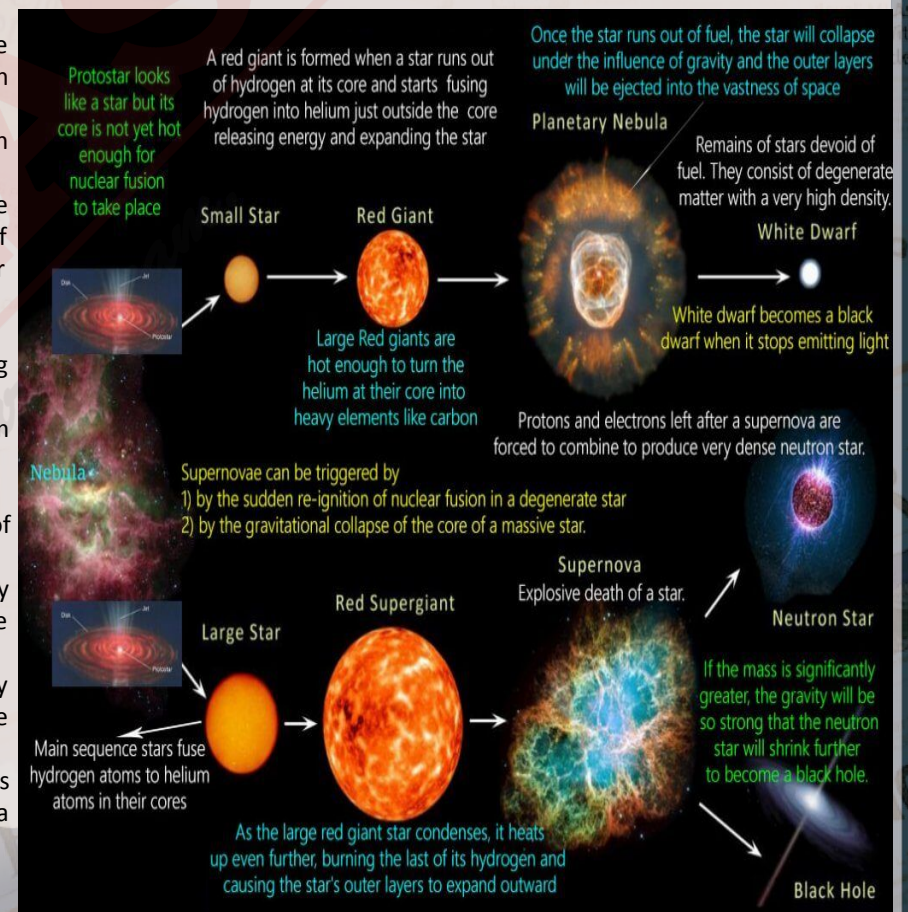
- The **India Smart Cities Award Contest (ISAC)** is organized under the **Smart Cities Mission**, Ministry of Housing and Urban Affairs, Government of India.
- This is **one of the important activities initiated under the Mission**, where pioneering city strategies, projects and ideas are recognized to award the exemplary performance, enable peer-peer learning and disseminate best practices.
- The ISAC **recognizes and reward the cities, projects and innovative ideas** that are promoting sustainable development across the 100 smart cities, as well as stimulating inclusive, equitable, safe, healthy and collaborative cities, thus enhancing quality of life for all.
- In the past, the ISAC has witnessed **three editions in 2018, 2019 and 2020**.
- The fourth edition of the ISAC was launched in April 2022 during the 'Smart Cities-Smart Urbanization' event in Surat.
- The **ISAC 2022 award had a two-stage submission process** consisting of 'Qualifying Stage', which involved overall assessment of the city's performance, and the 'Proposal Stage' which required the smart cities to submit their nominations for six award categories as follows:
 - Project Awards: 10 different themes,
 - Innovation Awards: 2 different themes,
 - National/Zonal City Awards,
 - State Awards,
 - UT Award, and
 - Partners Awards, 3 different themes

Novel method to compute emission from accreting neutron stars can help understanding them

Context: Scientists have investigated the inflow of matter onto neutron stars- which are compact stars with masses similar to the Sun, but confined to a very small region like a city.

Key Points

- Neutron stars can harbor extreme magnetic fields and this work for the first time found a methodology to obtain unique solutions for accretion onto a neutron star.
- It could help understanding of underlying physical processes around Neutron stars (NS).
- Because of the extreme compactness (mass to radius ratio) of NS, they have large surface gravitational potentials which make them an efficient accretor of surrounding matter. It may be noted, accretion is the process of inflow of matter onto a compact star.
- The accretion dynamics, however, is strongly dictated by the magnetic fields.
- The strong magnetic field of the star restricts the infalling matter to flow along these field lines until they reach the poles of the star.
- It is near the poles where the matter emits most of its kinetic energy in the form of radiation.
- This enables the flow to slow down, finally settling down onto the NS surface.
- Accretion flow around NS is composed of ionised plasma which is a soup of protons and electrons.
- Because electrons are almost two thousand times lighter than the protons, they are prone to different radiative emission processes and hence, these species are expected to exhibit different temperature distribution than that of the protons.
- Working in this two-temperature regime is not trivial since they suffer from a very basic problem of degeneracy, which arises because of the presence of more variables than the number of equations of motions available.
- Degeneracy implies that the equations of motions when solved, produces multiple accretion solutions and hence different observable spectrum even for a given set of constants of motion.



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