Blue stragglers

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In news– Recently, the researchers from the Indian Institute of Astrophysics (IIA), Bengaluru have deciphered the formation of Blue stragglers star formation.

About recent discovery-

- The researchers have found that half of the blue stragglers in their sample are **formed through mass transfer from a close binary companion star, while one third are likely formed through collisions of two stars.**
- And the remaining are formed through interactions of more than two stars.
- **The researchers utilised the Gaia telescope launched in 2013 by the European Space Agency** with its excellent positional accuracy to select the blue stragglers in clusters.

- **This first-ever comprehensive analysis of blue stragglers is published in the journal Monthly Notices of the Royal Astronomical Society.**

- It showed that these stars are primarily present in the older and massive star clusters and due to their large mass, they are segregated towards the centre of the clusters.
- **The researchers compared the mass of the blue stragglers to the mass of the turnoff stars** (which are the most massive 'normal' stars in the cluster) and predicted the formation mechanisms.

About Blue stragglers

- A blue straggler is a **main-sequence star in an open or globular cluster that is more luminous** and bluer than

stars at the main sequence turnoff point for the cluster.

- **They are bigger and bluer than the rest of the stars**.
- **They were first discovered by Allan Sandage in 1953** while performing photometry of the stars in the globular cluster M3.

Interesting clusters and blue stragglers identified in this study will be followed up with ultraviolet imaging using **UV Imaging Telescope on AstroSat, I**ndia's first dedicated space observatory, as well as the 3.6 m Devasthal Optical Telescope in Nainital.