National Institute of Technology Rourkela

Registration Seminar

Seminar Title	: Study of Lyman Break Galaxies (LBGs) at low redshift
Speaker	: Bibhuprasad Mishra (Rollno : 522ph1009)
Supervisor	: Prof. Ananta Charan Pradhan
Venue	: MC126
Date and Time	: 30 Dec 2024 (4:00 PM)
Abstract	: Neutral Hydrogen present in galaxies and the intergalactic medium strongly absorb the emission flux and attenuates between Ly&alpha (1216 Å) and the Lyman limit (912 Å), producing a spectral &ldquobreak&rdquo that provides a color signature to identify objects at high redshift, called &ldquoLyman Break Galaxies (LBGs)&rdquo. Using this method with a custom suit of broadband filters these galaxies have been detected over the years. These galaxies are easy to observe at high redshift beyond z~2, but detection of LBGs at redshift z < 1 is still a challenging task as we need observations in the ultraviolet (UV) range with better resolution. We aim to detect the LBGs at low redshift within a range of 0.5 &le z &le 1.0 and to study their morphology as well as intrinsic properties using broadband observations. For instance, we have taken an observation in far-UV (FUV: 1300-1800Å) and near-UV (NUV: 2000 - 3000Å) using Ultraviolet Imaging Telescope (UVIT) aiming Great Observatories Origins Deep Survey-North (GOODS-N) centered at RA: 12h 36m 44.27s, DEC: 62° 14' 24.48". We have extracted sources and done photometry on them. For selecting the LBG candidates within our desired range, we have applied a selection criterion and estimated their photometric redshifts using multi-wavelength observations. Some of the preliminary works and the works intended to be done for the thesis work will be discussed.