An online seminar series organized jointly by SFU, UBC and UVic.

PHYSICS AND ASTRONOMY SEMINAR

Chiaki Kobayashi

University of Hertfordshire

Chemodynamical evolution of galaxies

Metallicities and elemental abundances are key to testing our current understanding of galaxy formation and evolution. At the beginning of the universe only light elements such as hydrogen and helium were produced. Carbon and heavier elements were instead created inside stars and distributed into the interstellar medium by stellar winds and supernova explosions. From the spatial distribution of elements in stars and gas, it is therefore possible to constrain the star formation and chemical enrichment histories of galaxies. This approach, Galactic Archaeology, has been popularly used for our Milky Way Galaxy. It can also be applied to external galaxies thanks to recent and future observations with integral field spectrographs. A decade ago it became possible to simulate chemical and dynamical evolution of galaxies following the development of high performance computers and improved computational techniques. I will show some recent simulation predictions of mass-metallicity relations and of metallicity radial gradients, and I will discuss future prospects in the era of the James Webb Space Telescope.

Wednesday, July 28, 2021

10:00 a.m. PST

For more information: https://www.sfu.ca/~jwa304/seminars.shtml